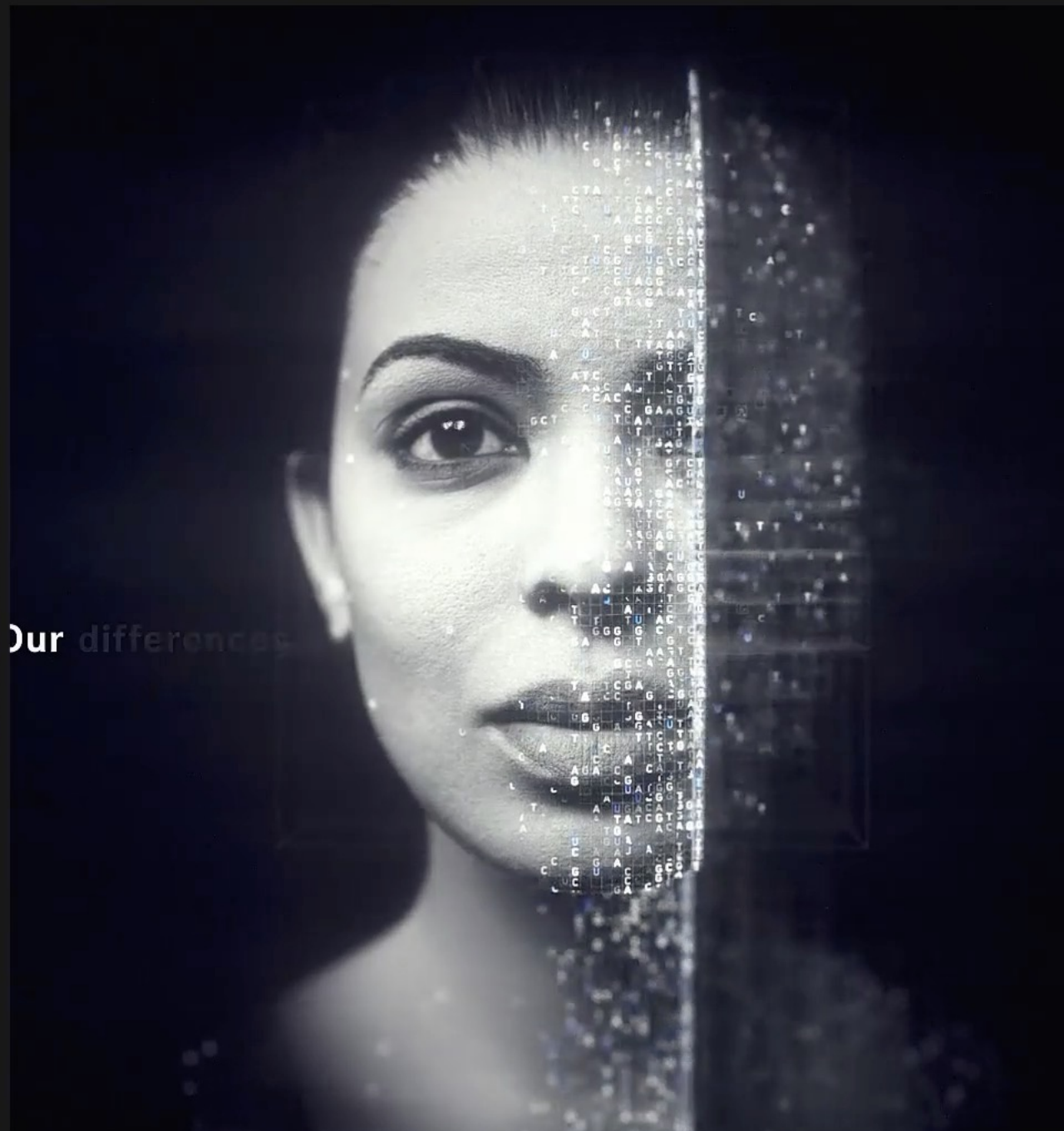
Visualisierungen für DESY

Konrad Rappaport / Science Communication Lab

Biologie

Our differences



Blick ins Atelier

Konrad
Grafik und Leitung

Tom
Leitung

Manuel
Grafik

Sven
Projektmanagement

Susanne
Inhalte

Jonas
Programmierung

Kolja
Programmierung

7+-
Team

2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

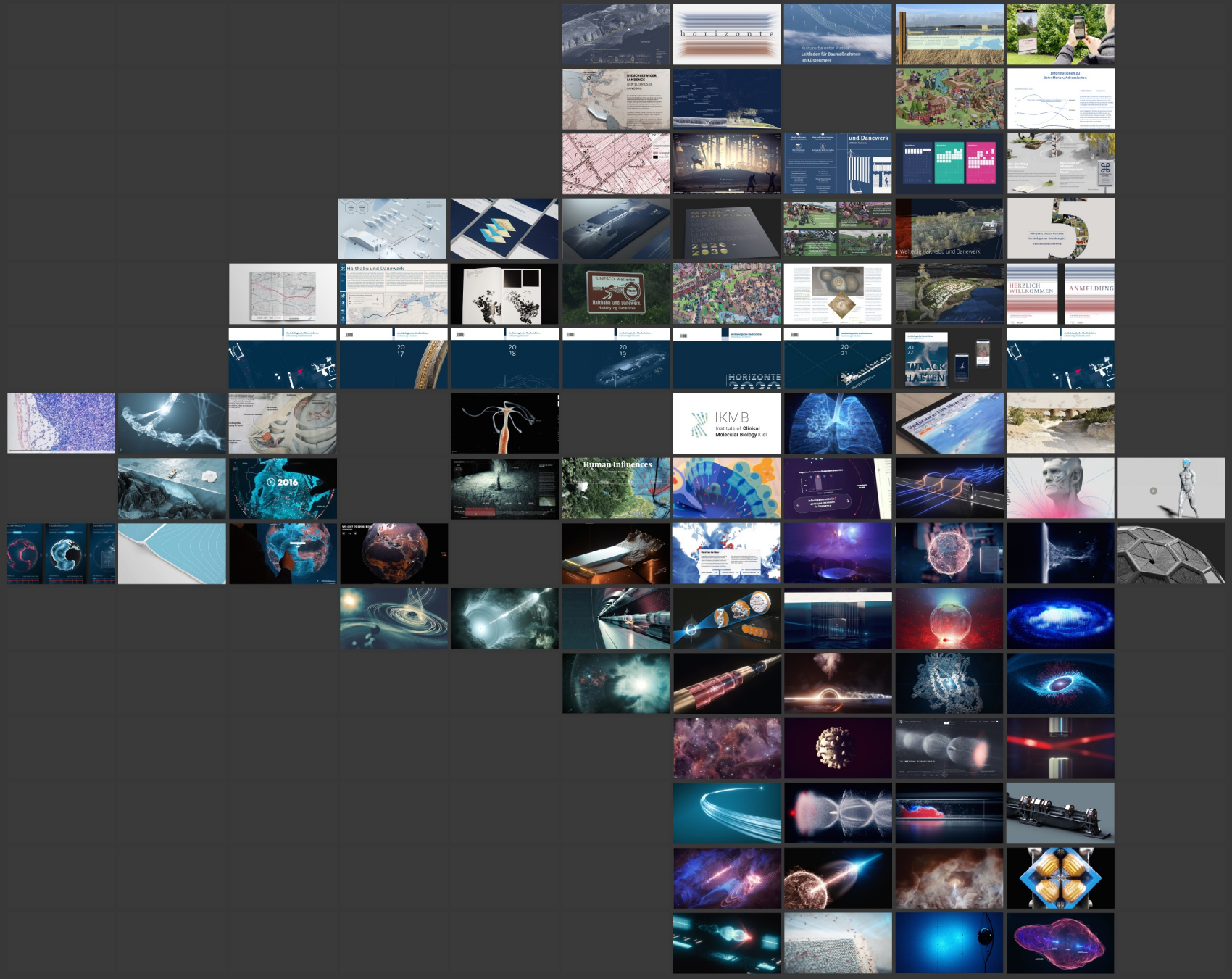
Geowissenschaften

Biologie

Archäologie

Physik

Sozialwissenschaften

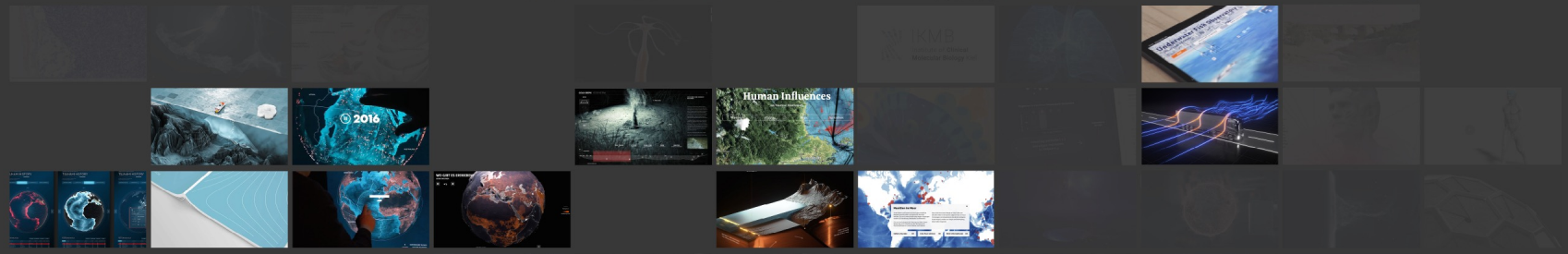


100+
Projekte

2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

Geowissenschaften

- Geophysik
- Fischerei
- Klimaforschung
- Ozeanografie
- Geologie



Biologie

Archäologie

Physik

Sozialwissenschaften

100+
Projekte

2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

Geowissenschaften

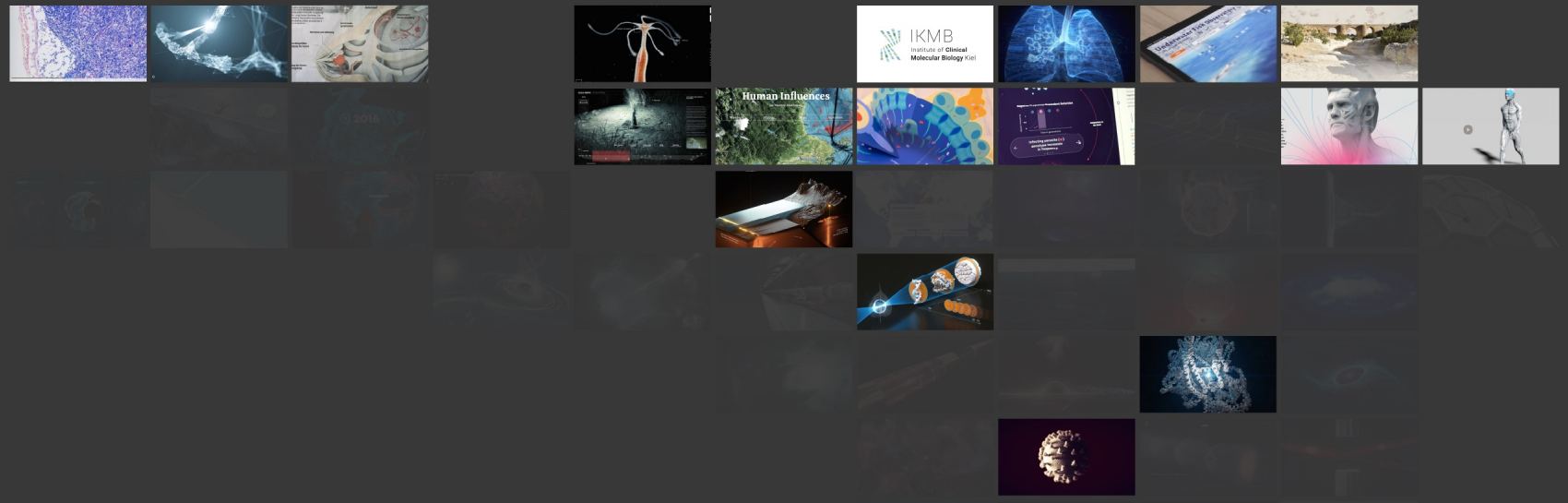
Biologie

- Evolutionsbiologie
- Medizin
- Marine Biologie
- Marine Mikrobiologie

Archäologie

Physik

Sozialwissenschaften



100+
Projekte

2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

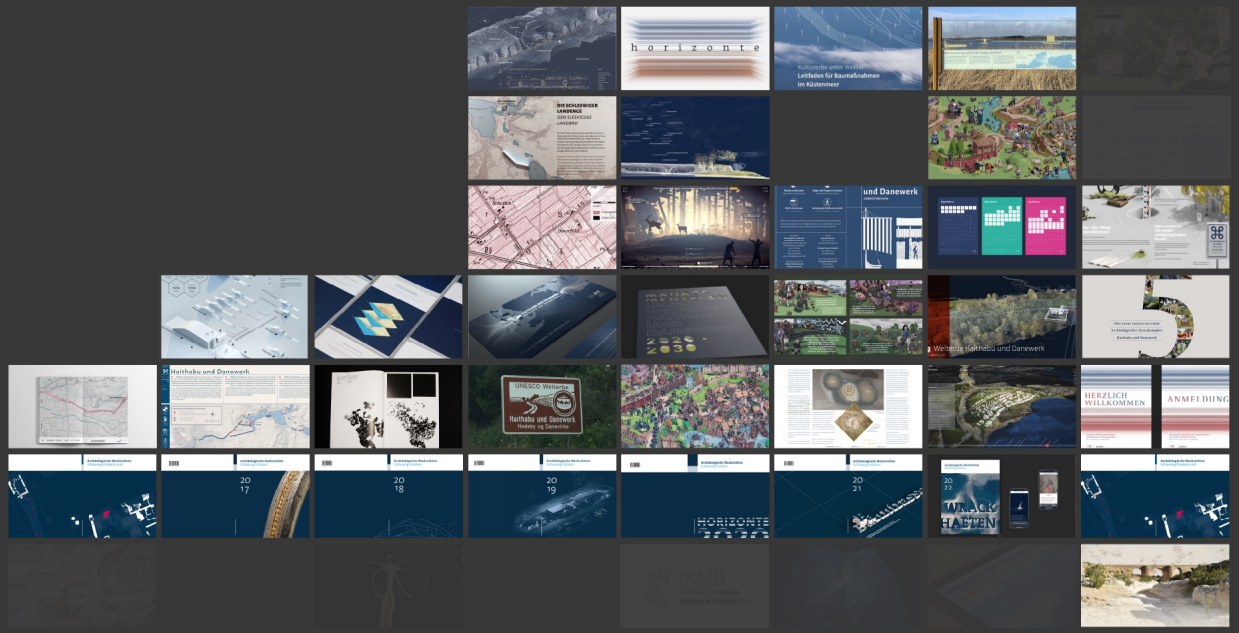
Geowissenschaften

Biologie

Archäologie

Physik

Sozialwissenschaften



100+

Projekte

2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

Geowissenschaften

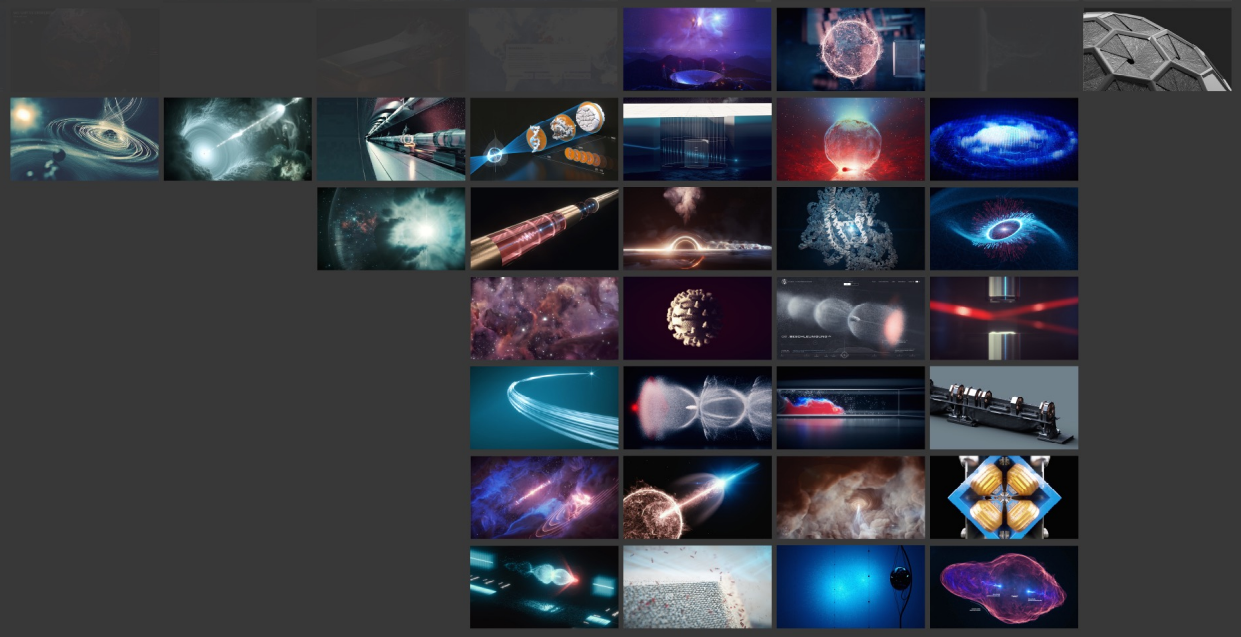
Biologie

Archäologie

Physik

- Astrophysik
- Partikelphysik
- Beschleunigerphysik
- Materialwissenschaften
- Technologie

Sozialwissenschaften



100+
Projekte

2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

Geowissenschaften

Biologie

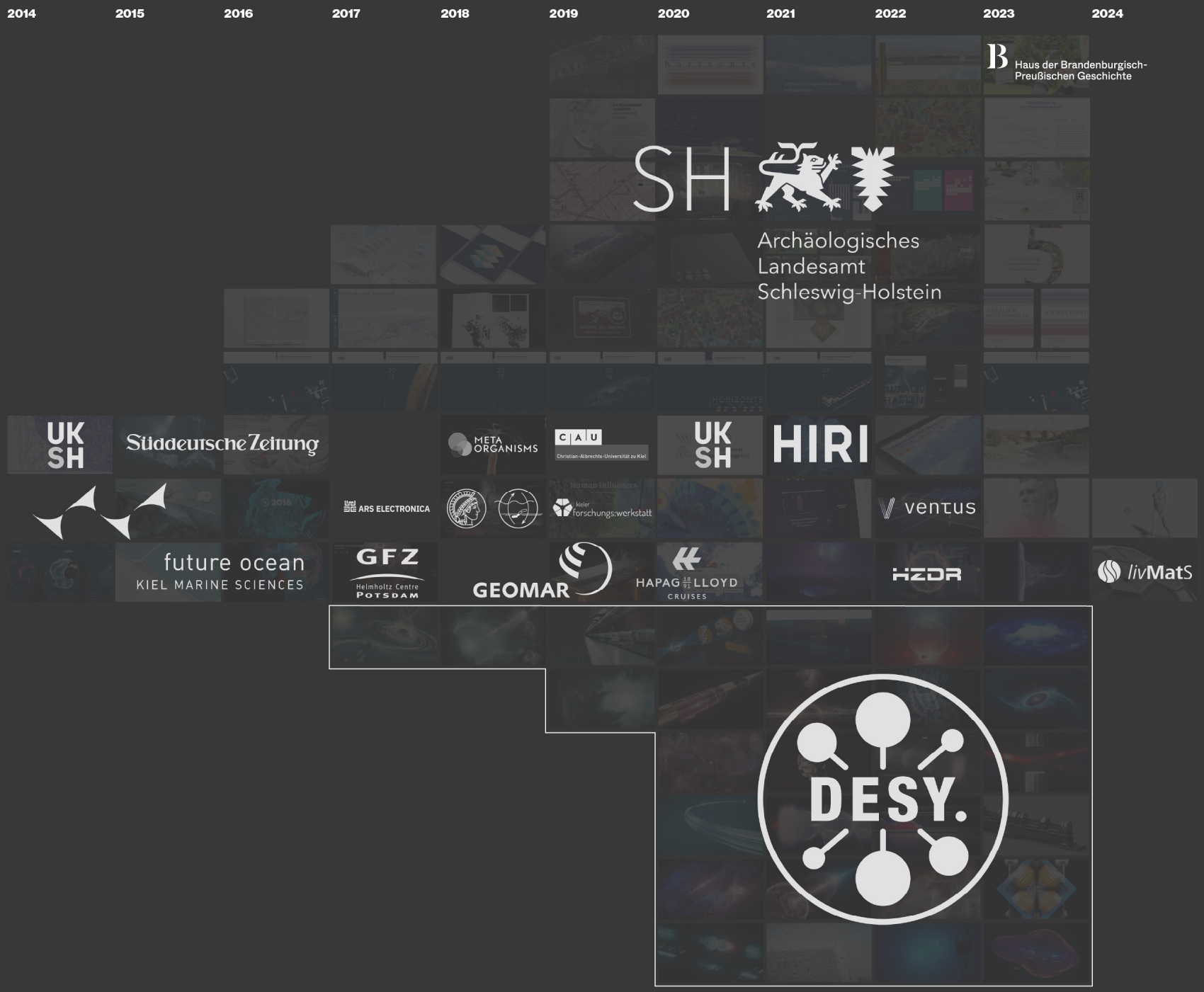
Archäologie

Physik

Sozialwissenschaften

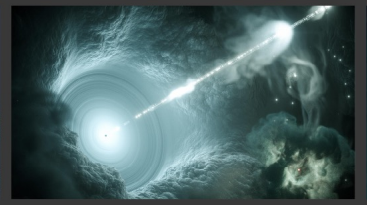
100+

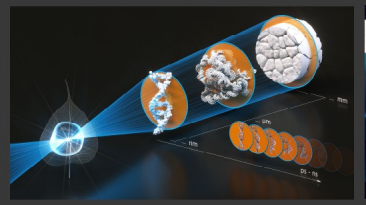
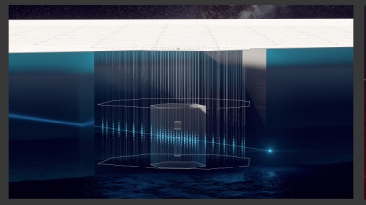
Projekte


2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
Haus der Brandenburgisch-Preußischen Geschichte
SH
Archäologisches Landesamt Schleswig-Holstein
UK SH
Süddeutsche Zeitung
META ORGANISMS
CAU
Christian-Albrechts-Universität zu Kiel
UK SH
HIRI
ARS ELECTRONICA
Human Influences
kieler forschungswerkstatt
ventus
future ocean
KIEL MARINE SCIENCES
GFZ
Helmholtz Centre Potsdam
GEOMAR
HAPAG LLOYD CRUISES
HZDR
livMatS
DESY.

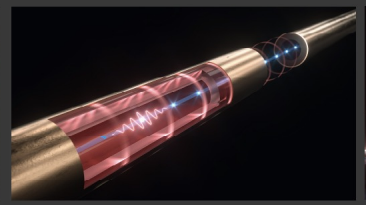
Kunden

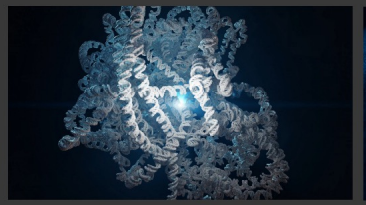
2017 2018 2019 2020 2021 2022 2023

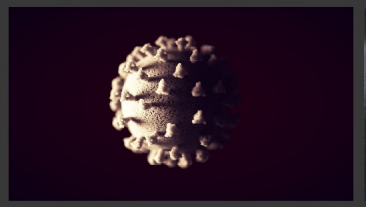



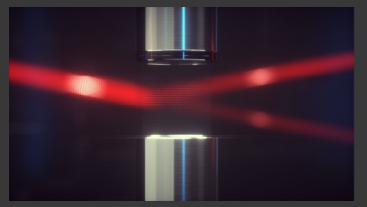



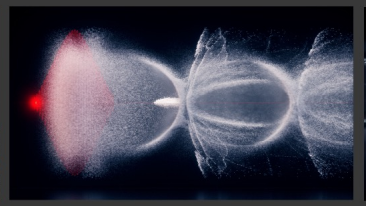


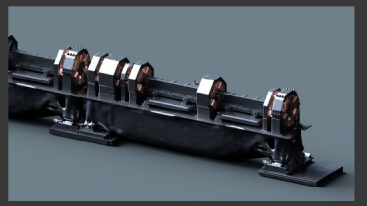




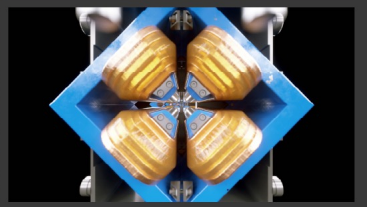
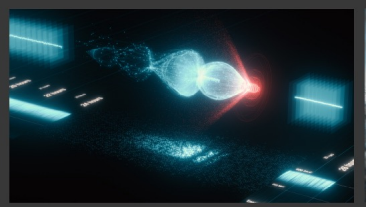



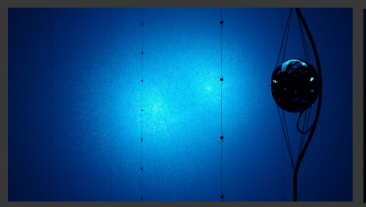
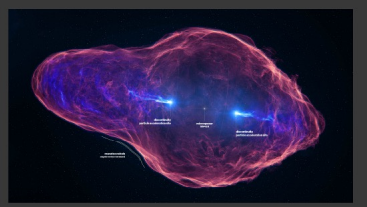





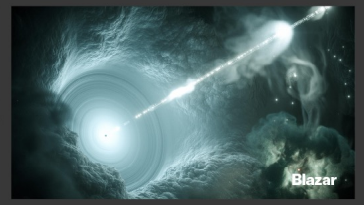




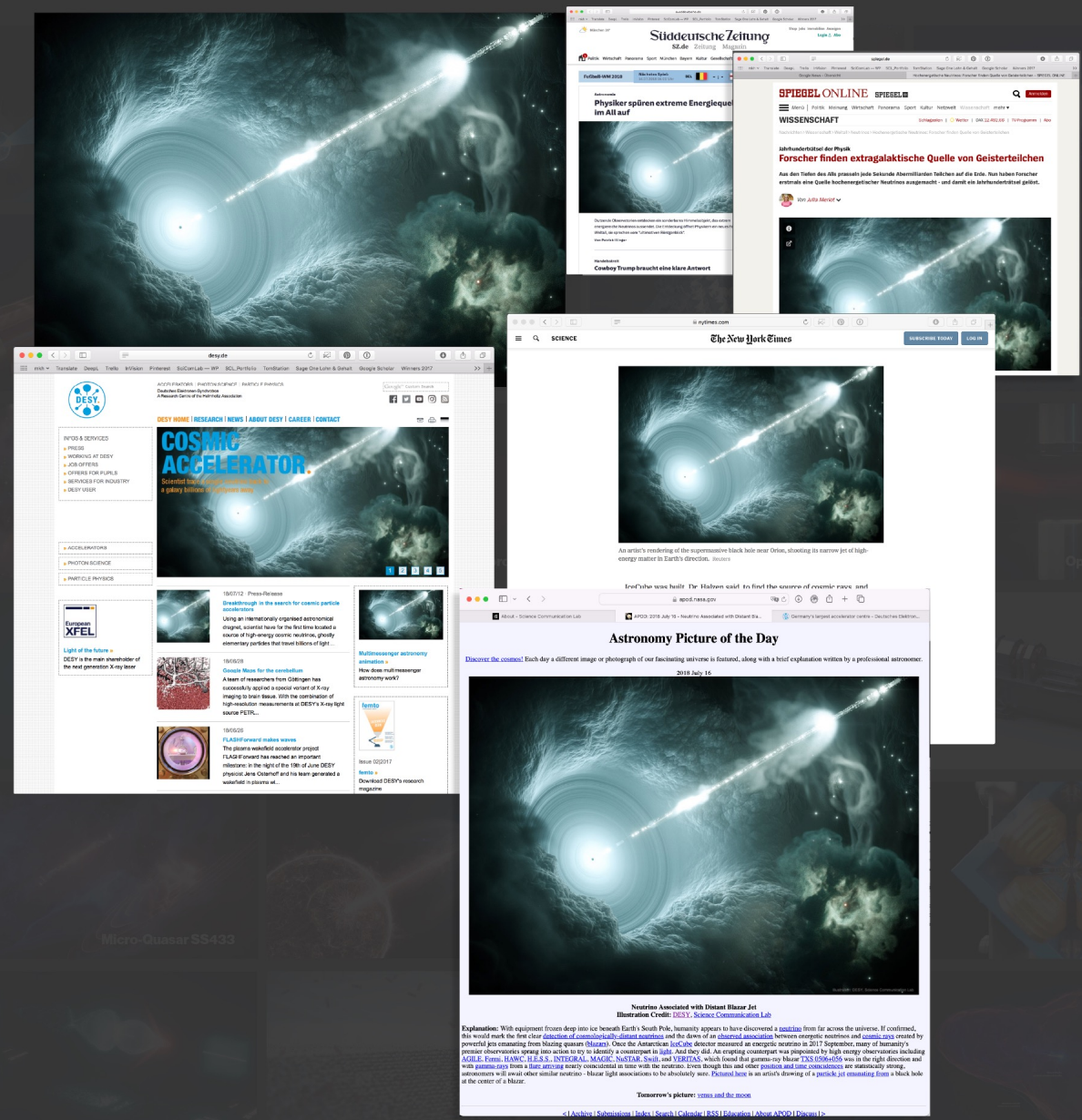



Visualisierung für DESY
30 +



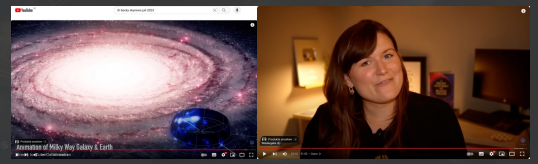
» Durchbruch bei der Fahndung nach Teilchenbeschleunigern im Weltall «

Bild, Video, Website



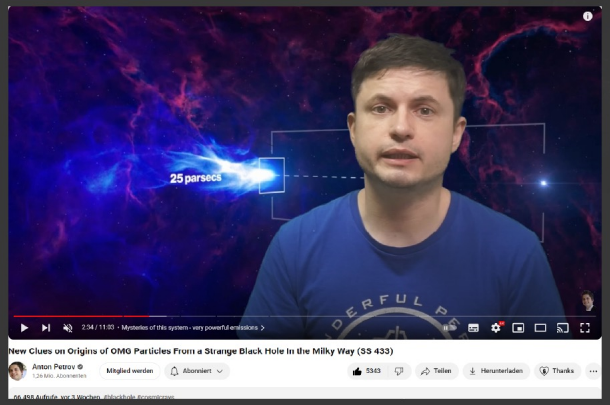
Visualisierung für DESY

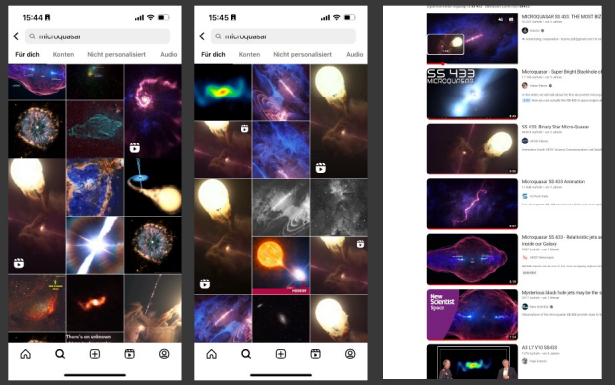
Sichtbarkeit



» Kosmischer Teilchen-beschleuniger am Limit «

Bild, Video



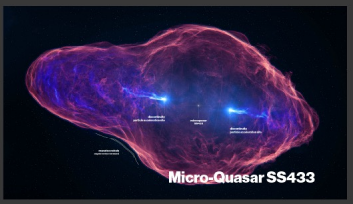


» Satellit erspäht rätselhaften Gammastrahlen-Herzschlag «

Bild, Video

» Galaktischer Mikroquasar gibt ein Geheimnis preis «

Bild, Video

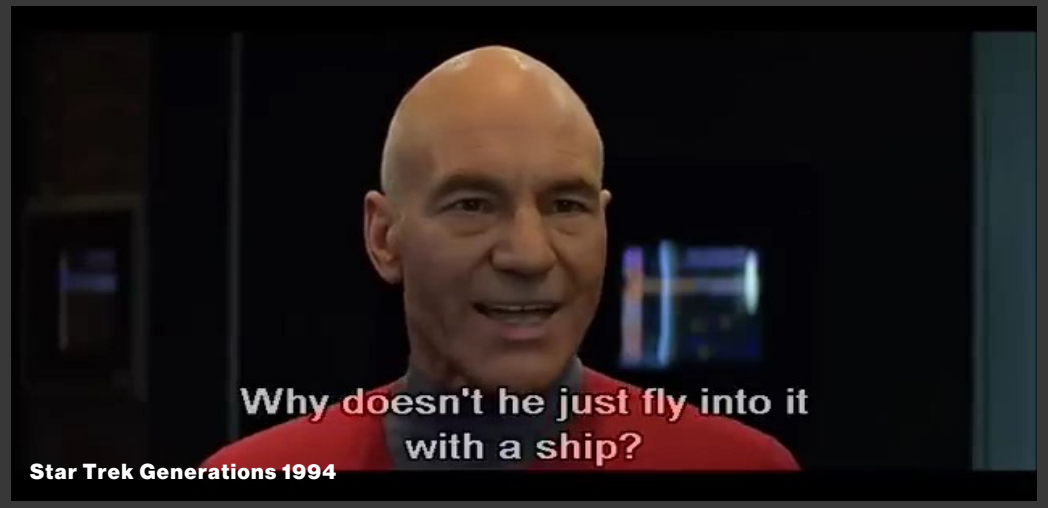


Visualisierung für DESY

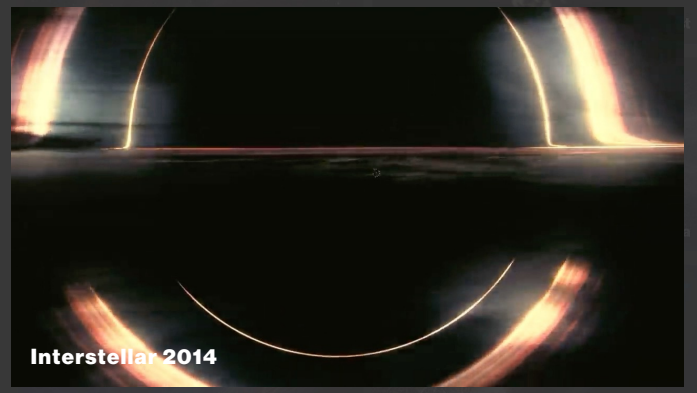
Sichtbarkeit

Wir sind Nerds und Sci-Fi Fans


Oblivion 2013



Star Trek Generations 1994

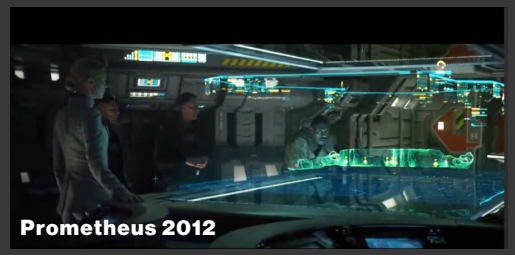

Interstellar 2014


Prometheus 2012

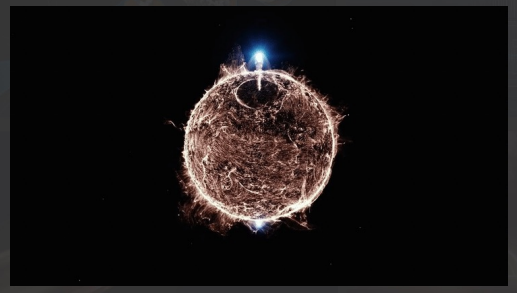
Visualisierung für DESY
Inspiration und Idee

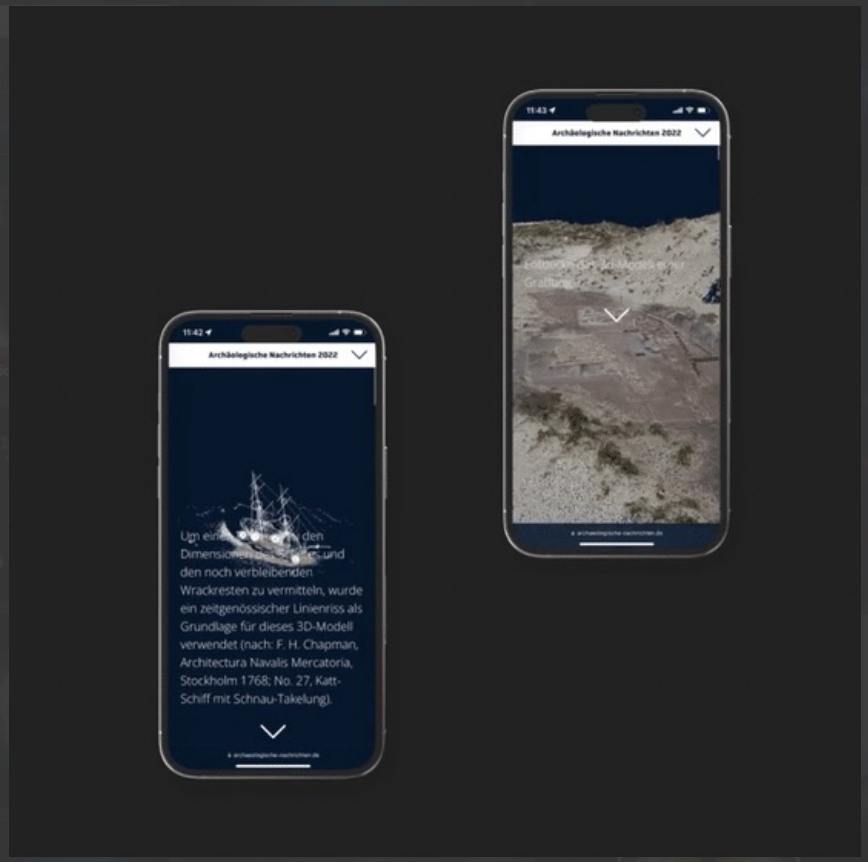
Star Trek Generations 1994

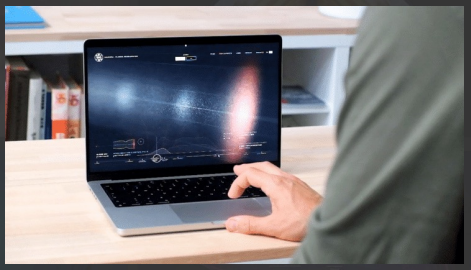

Interstellar 2014


Prometheus 2012


Oblivion 2013

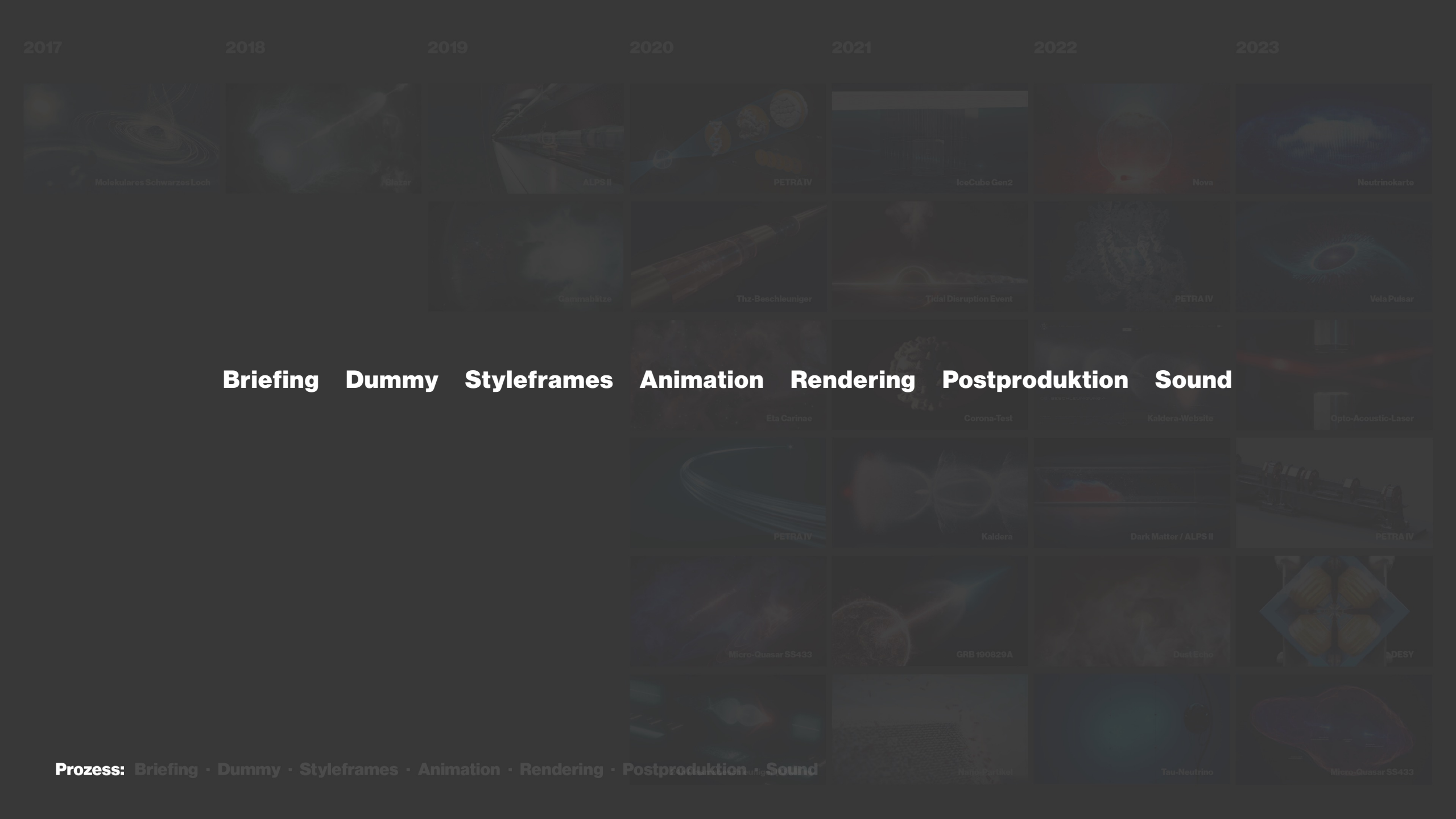


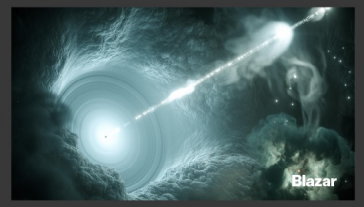




Visualisierung für DESY

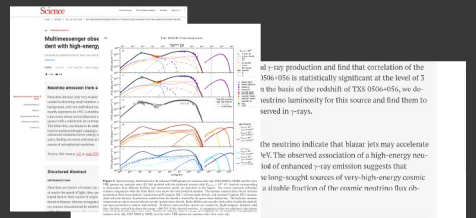
Inspiration und Idee

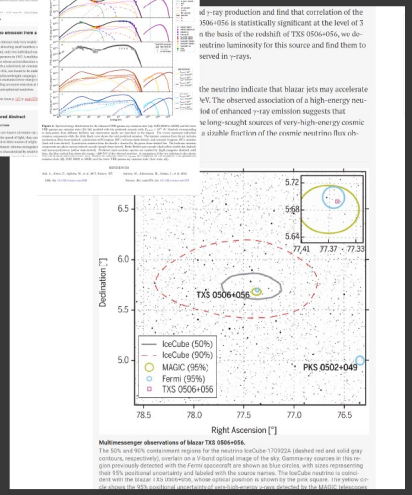

2017
2018
2019
2020
2021
2022
2023
Molekulares Schwarzes Loch
Blazar
ALPS II
PETRA IV
IceCube Gen2
Nova
Neutrinokarte
Gammablitze
Thz-Beschleuniger
Tidal Disruption Event
PETRA IV
Vela Pulsar
Eta Carinae
Corona-Test
Kaldera-Website
Opto-Acoustic-Laser
PETRA IV
Kaldera
Dark Matter / ALPS II
PETRA IV
Micro-Quasar SS433
GRB 190829A
DESY
Tau-Neutrino
Micro-Quasar SS433
Briefing Dummy Styleframes Animation Rendering Postproduktion Sound
Prozess: Briefing · Dummy · Styleframes · Animation · Rendering · Postproduktion · Sound



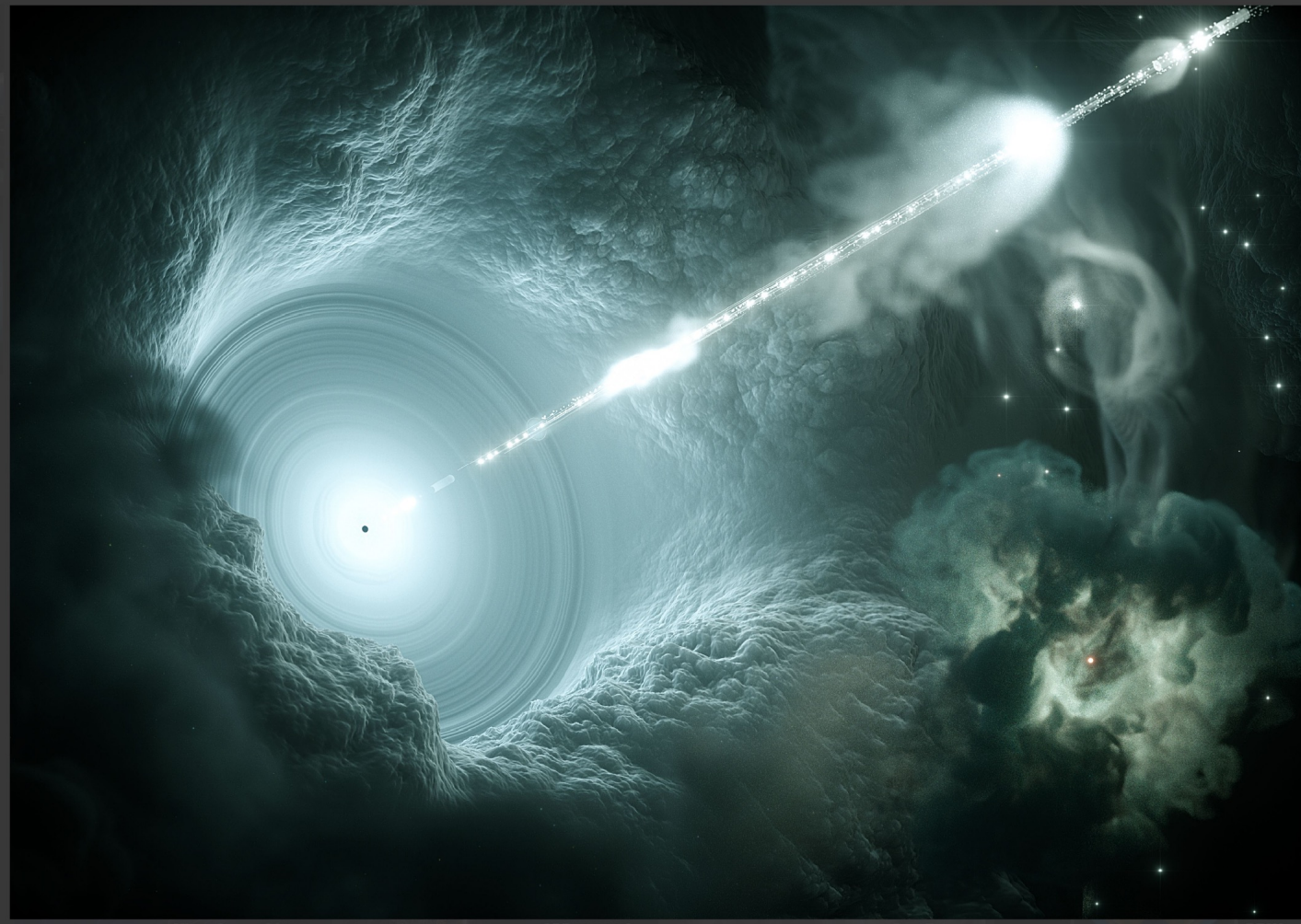
» Durchbruch bei der Fahndung nach Teilchenbeschleunigern im Weltall «

Bild, Video, Website

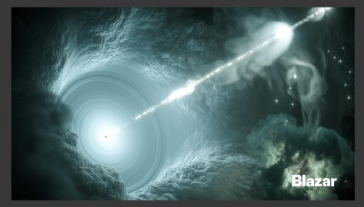




Material wenig visuell

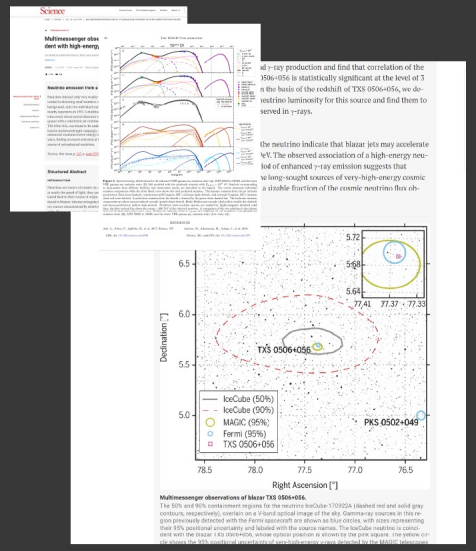


Prozess: Briefing · Dummy · Styleframes · Animation · Rendering · Postproduktion · Sound

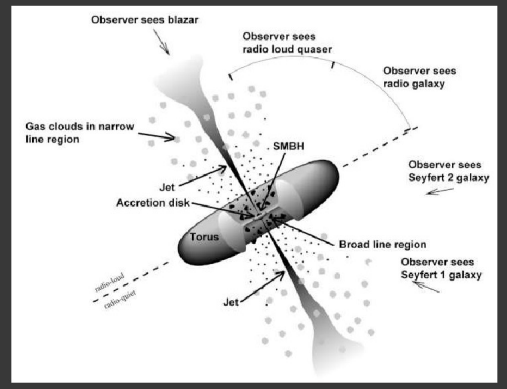


» Durchbruch bei der Fahndung nach Teilchenbeschleunigern im Weltall «

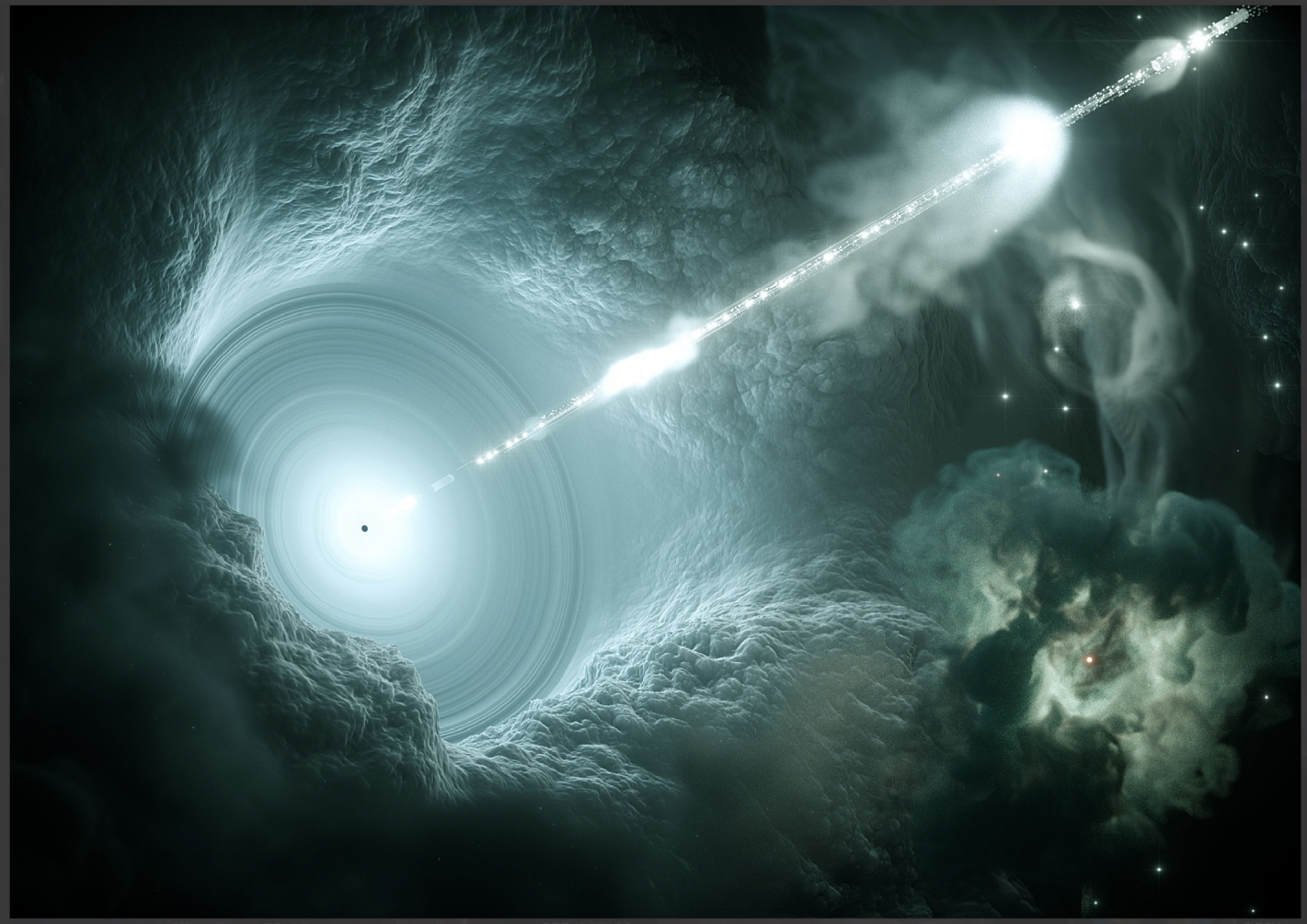
Bild, Video, Website



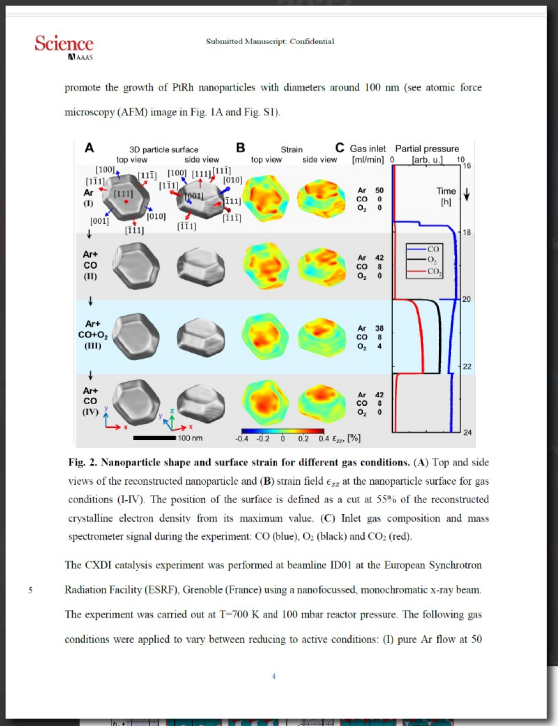
Material wenig visuell



Recherche bestehender Grafiken
Beschreibung durch WissenschaftlerInnen



Prozess: Briefing · Dummy · Styleframes · Animation · Rendering · Postproduktion · Sound



Science
AAAS

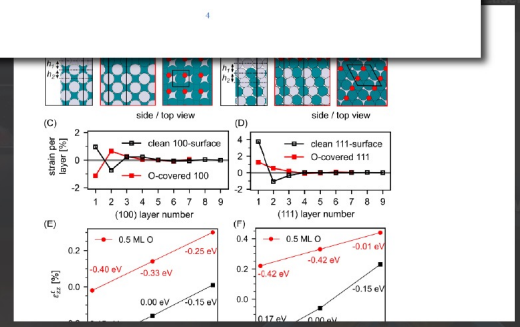
Submitted Manuscript: Confidential

promote the growth of PtRh nanoparticles with diameters around 100 nm (see atomic force microscopy (AFM) image in Fig. 1A and Fig. S1).

Fig. 2. Nanoparticle shape and surface strain for different gas conditions. (**A**) Top and side views of the reconstructed nanoparticle and (**B**) strain field ϵ_{zz} at the nanoparticle surface for gas conditions (**I-IV**). The position of the surface is defined as a cut at 55% of the reconstructed crystalline electron density from its maximum value. (**C**) Inlet gas composition and mass spectrometer signal during the experiment: CO (blue), O_2 (black) and CO_2 (red).

The CXDI catalysis experiment was performed at beamline ID01 at the European Synchrotron Radiation Facility (ESRF), Grenoble (France) using a nanofocussed, monochromatic x-ray beam. The experiment was carried out at T=700 K and 100 mbar reactor pressure. The following gas conditions were applied to vary between reducing to active conditions: (I) pure Ar flow at 50

4

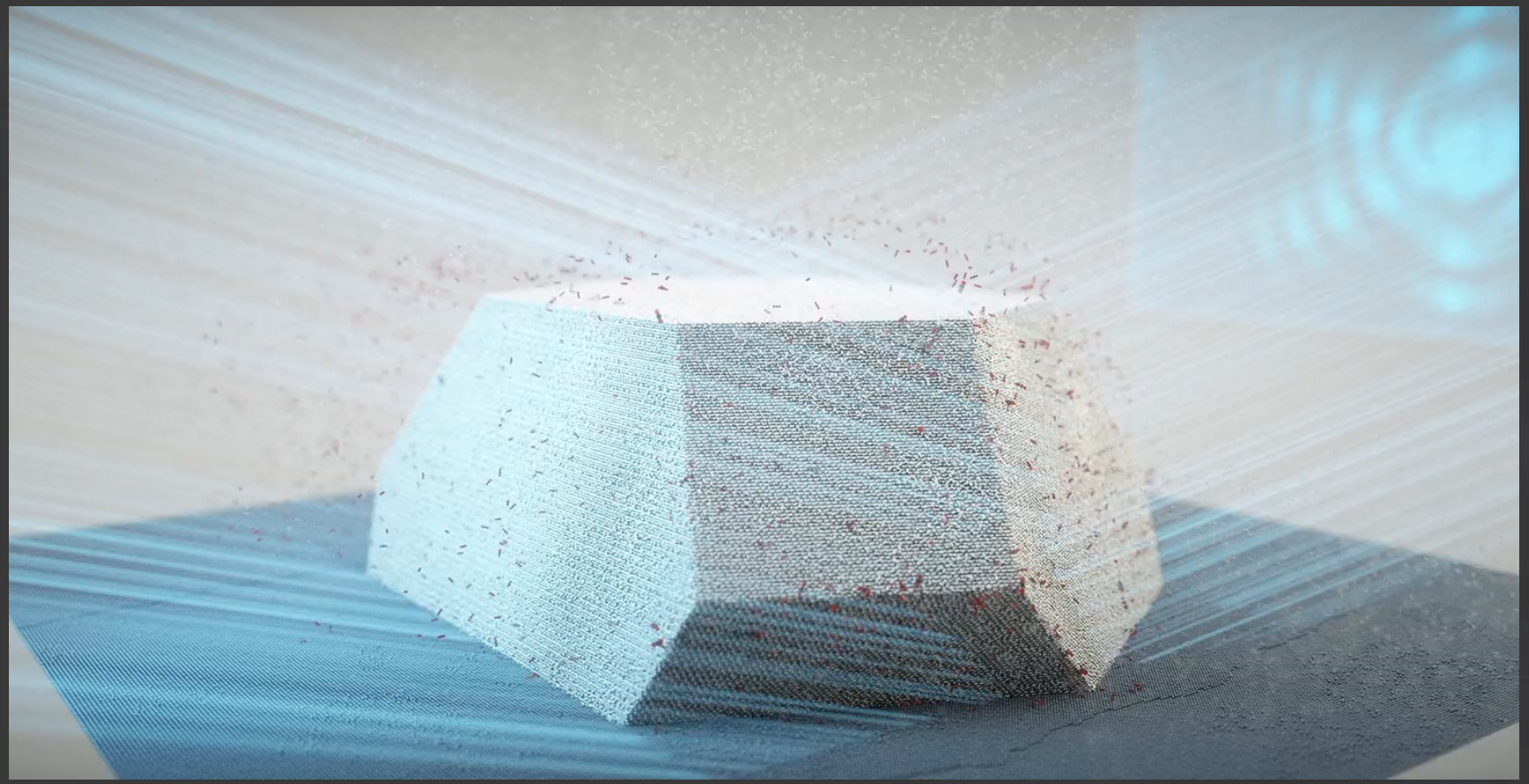


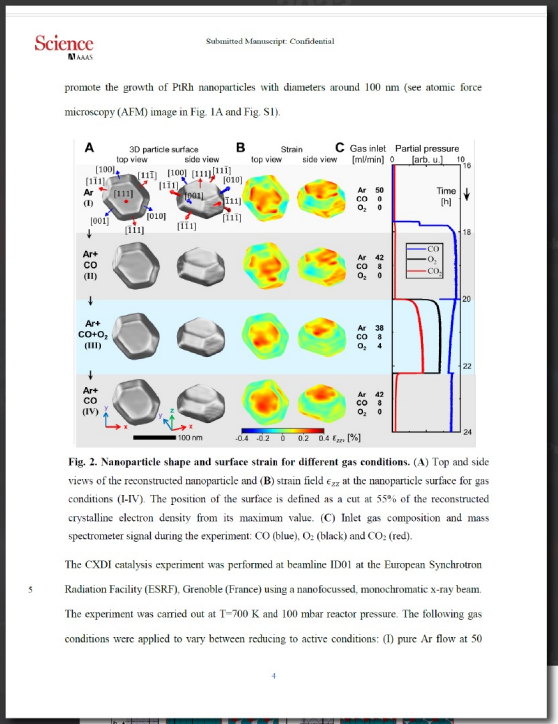
Ausgangsmaterial bereits visuell und dient als Vorlage

» Einzigartiger Blick auf einzelnes Katalysator-Nanopartikel bei der Arbeit «

Bild, Video

Prozess: Briefing · Dummy · Styleframes · Animation · Rendering · Postproduktion · Sound





Science
AAAS

Submitted Manuscript: Confidential

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Fig. 2. Nanoparticle shape and surface strain for different gas conditions. (**A**) Top and side views of the reconstructed nanoparticle and (**B**) strain field ϵ_{zz} at the nanoparticle surface for gas conditions (**I-IV**). The position of the surface is defined as a cut at 55% of the reconstructed crystalline electron density from its maximum value. (**C**) Inlet gas composition and mass spectrometer signal during the experiment: CO (blue), O_2 (black) and CO_2 (red).

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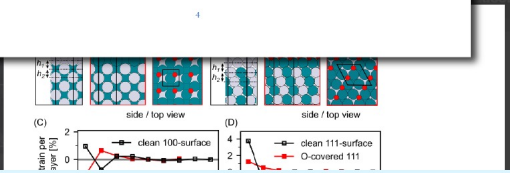
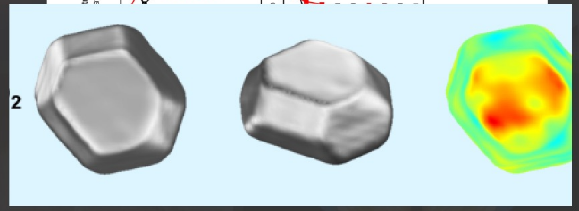
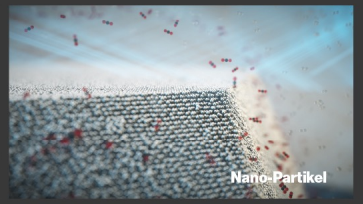
4





Ausgangsmaterial bereits visuell und dient als Vorlage



» Einzigartiger Blick auf einzelnes Katalysator-Nanopartikel bei der Arbeit «

Bild, Video

Prozess: Briefing · Dummy · Styleframes · Animation · Rendering · Postproduktion · Sound

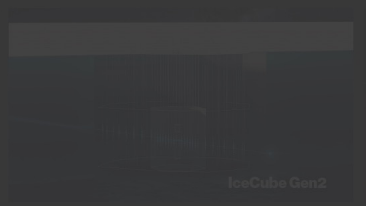
2017 2018 2019 2020 2021 2022 2023

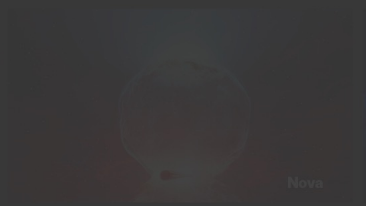

Molekulares Schwarzes Loch

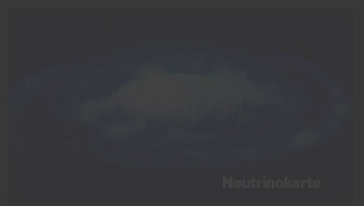

Blazar


ALPS II


PETRA IV

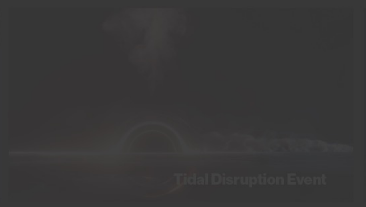

IceCube Gen2


Nova


Neutrinokarte


Gammeblitze


Thz-Beschleuniger


Tidal Disruption Event

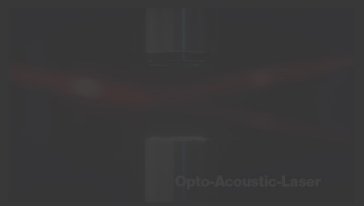

PETRA IV


Vela Pulsar


Eta Carinae

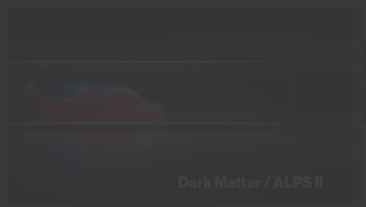

Corona-Test


Kaldera-Website


Opto-Acoustic-Laser


PETRA IV

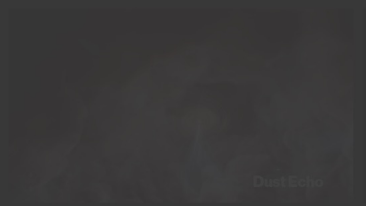

Kaldera


Dark Matter / ALPS II


PETRA IV


Micro-Quasar SS433


GRB 190829A


Dust Echo

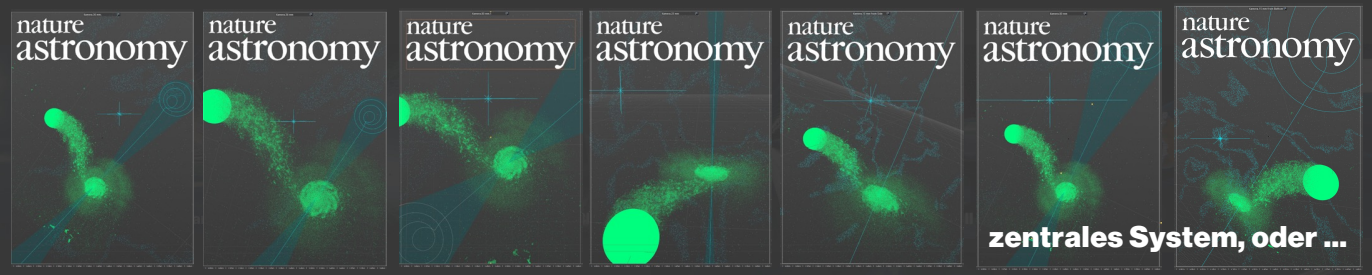

DESY


Naive Partikel


Tau-Neutrino


Micro-Quasar SS433

Prozess: Briefing · **Dummy** · Styleframes · Animation · Rendering · Postproduktion · Sound



zentrales System, oder ...

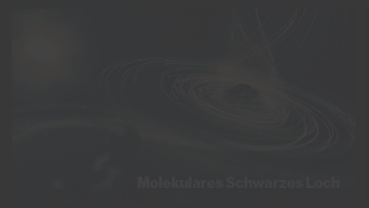
Blick von außen?

» Satellit erspäht rätselhaften Gammastrahlen-Herzschlag «

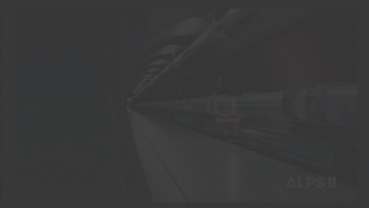
Bild, Video

Prozess: Briefing · **Dummy** · Styleframes · Animation · Rendering · Postproduktion · Sound

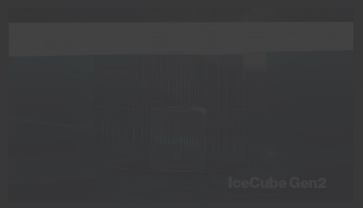
2017 2018 2019 2020 2021 2022 2023

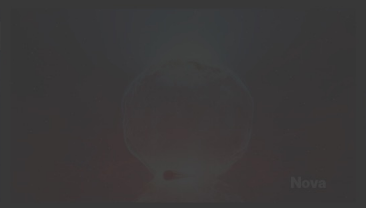

Molekulares Schwarzes Loch


Blazar


ALPS II


PETRA IV

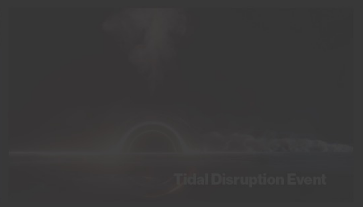

IceCube Gen2


Nova


Neutrinokarte


Gammeblitze


Thz-Beschleuniger

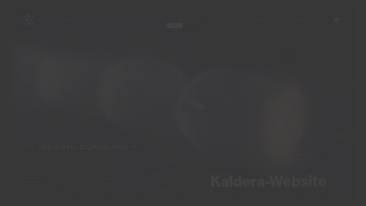

Tidal Disruption Event

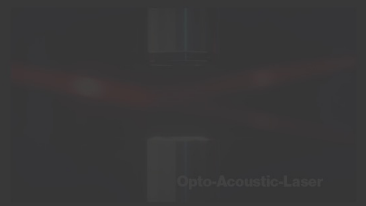

PETRA IV


Vela Pulsar


Eta Carinae

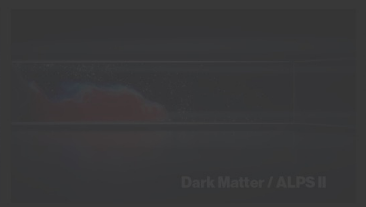

Corona-Test


Kaldera-Website


Opto-Acoustic-Laser


PETRA IV

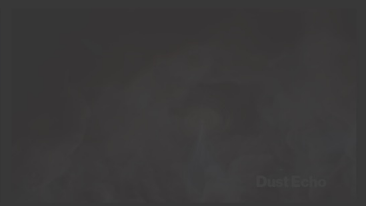

Kaldera


Dark Matter / ALPS II


PETRA IV


Micro-Quasar SS433


GRB 190829A


Dust Echo


DESY


Naive Partikel


Tau-Neutrino


Micro-Quasar SS433

Prozess: Briefing · Dummy · **Styleframes** · Animation · Rendering · Postproduktion · Sound

» Satellit erspäht rätselhaften Gammastrahlen-Herzschlag «

Bild, Video

Prozess: Briefing · Dummy · **Styleframes** · Animation · Rendering · Postproduktion · Sound

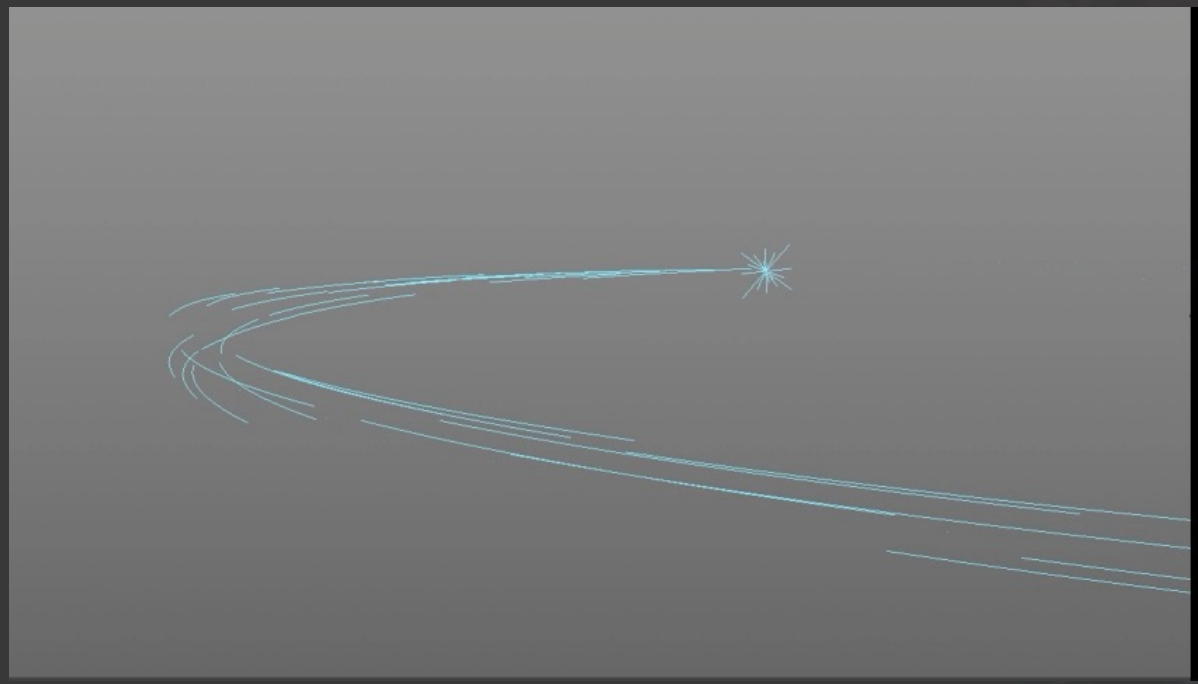
2017 2018 2019 2020 2021 2022 2023

Molekulares Schwarzes Loch · Blazar · ALPS II · PETRA IV · IceCube Gen2 · Neutrinokarte

Gammablitze · Thz-Beschleuniger · Tidal Disruption Event · Vela Pulsar

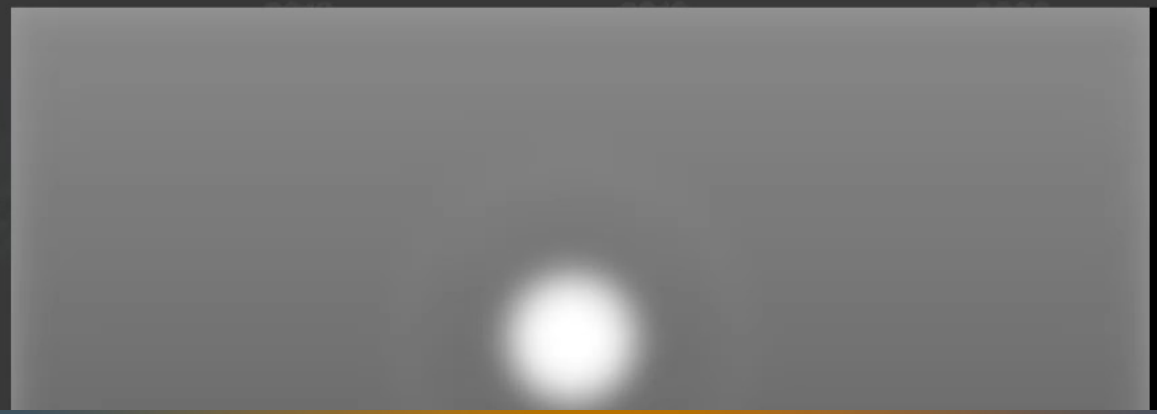
» Die leistungsstärkste Synchrotronstrahlungsquelle der Welt«

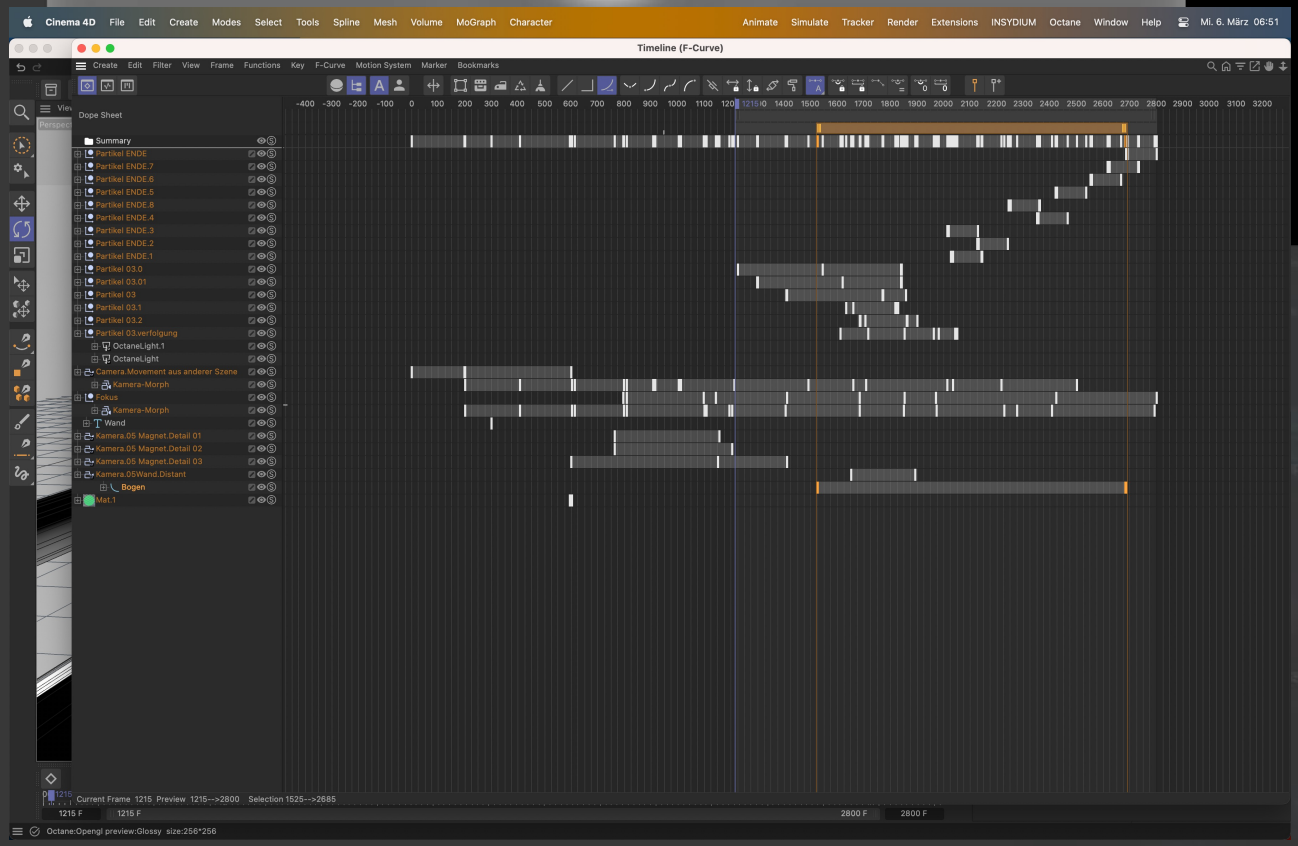
Bild, Video



Prozess: Briefing · Dummy · Styleframes · **Animation** · Rendering · Postproduktion · Sound

Nano-Partikel · Tau-Neutrino · Micro-Quasar SS433

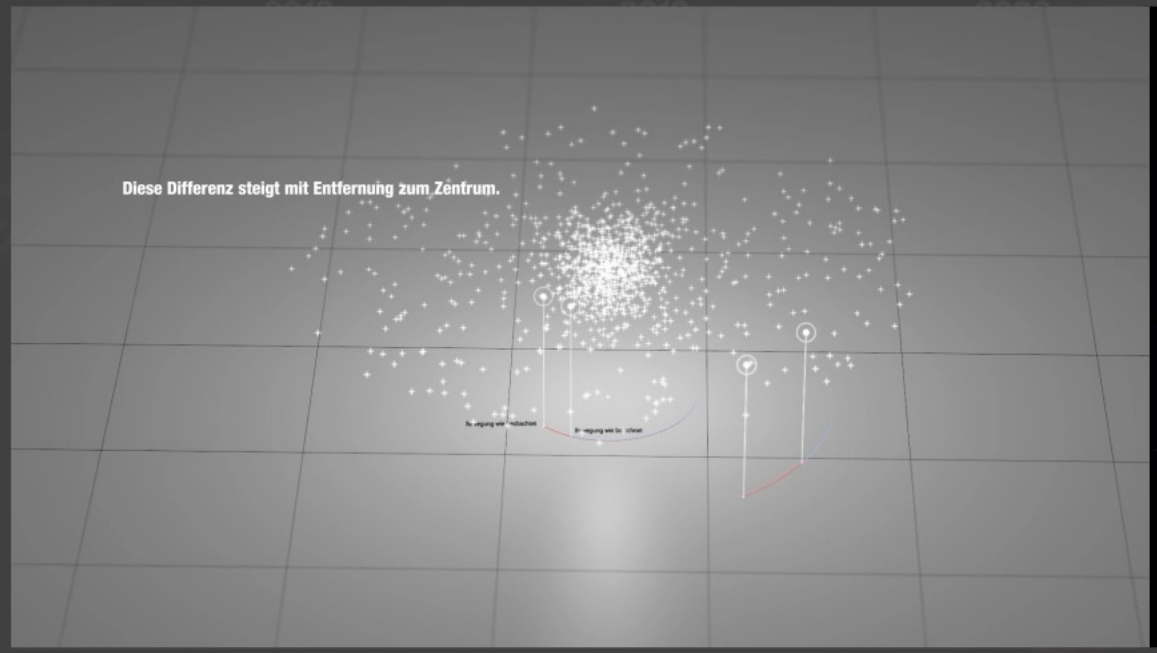


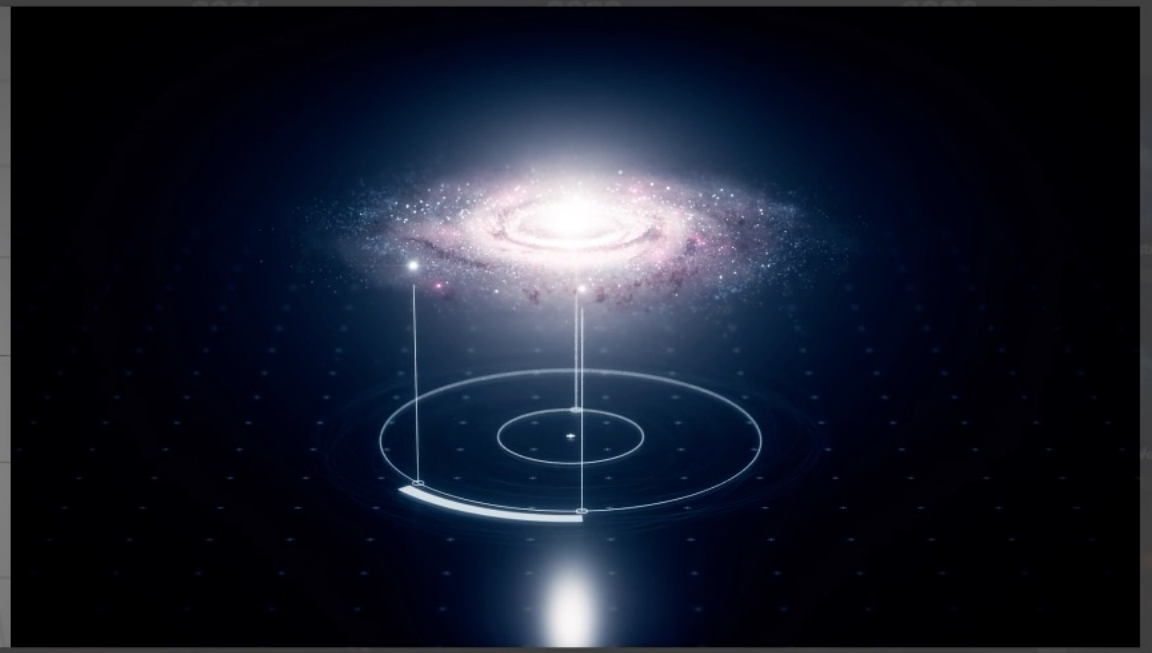


Licht-durch-die-Wand-Experiment
ALPS

Bild, Video, Poster, Website

Prozess: Briefing · Dummy · Styleframes · **Animation** · Rendering · Postproduktion · Sound





Modelle

Boden/Grid
Galaxie
(Partikel Animation)

Bewegungen

Kamera
Sterne
Trajektorien

Lichter

Globale Illumination
Sterne

Licht-durch-die-Wand-Experiment ALPS

Bild, Video, Poster, Website

Prozess: Briefing · Dummy · Styleframes · **Animation** · Rendering · Postproduktion · Sound

2017 2018 2019 2020 2021 2022 2023

Molekulares Schwarzes Loch

Blazar

ALPS II

PETRA IV

Gammablitze

Thz-Beschleuniger

Eta Carinae

Corona-Test

PETRA IV

Kaldera

Dark Matter / ALPS II

PETRA IV

Micro-Quasar SS433

GRB 190829A

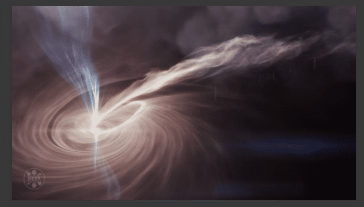
Tau-Neutrino

Micro-Quasar SS433

» Geisterteilchen enthüllt kosmischen Beschleuniger «

Bild, Video

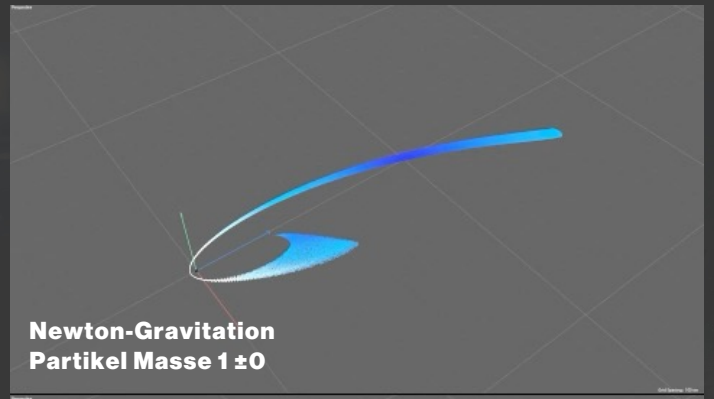
Wie sieht es aus wenn ein Stern von einem schwarzen Loch zerrissen wird?



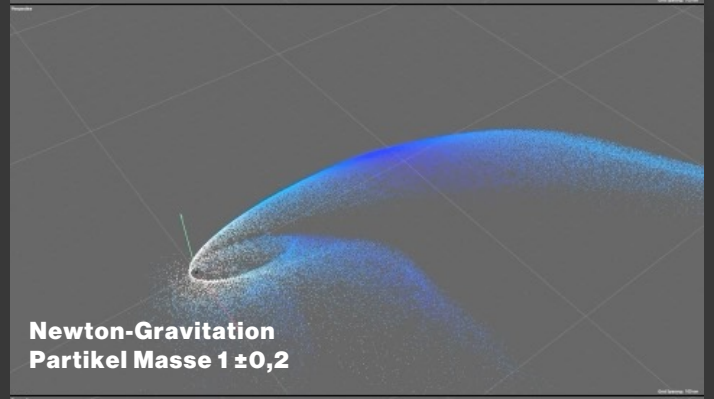
» Lichtecho verrät kosmische Katastrophe«

Bild, Video

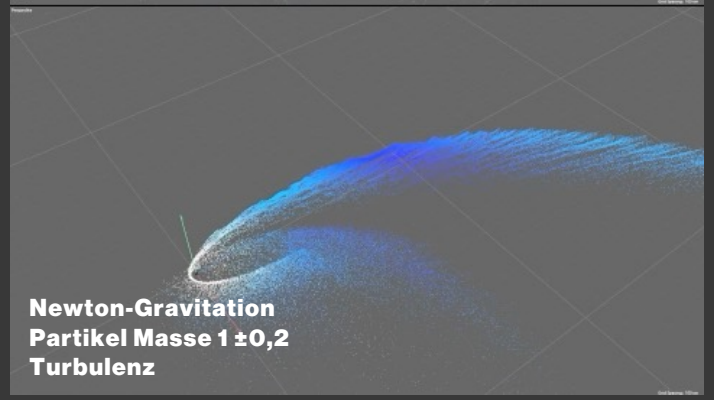
Prozess: Briefing · Dummy · Styleframes · **Animation** · Rendering · Postproduktion · Sound



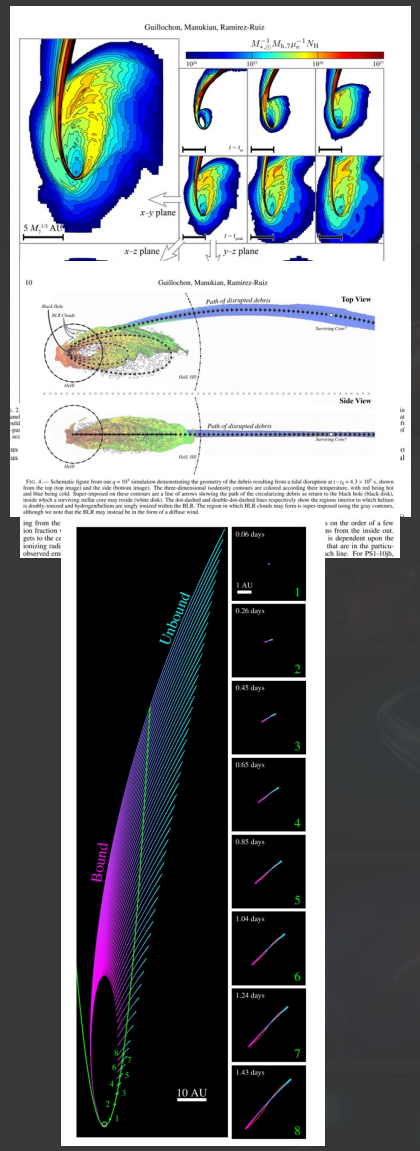
Newton-Gravitation
Partikel Masse 1 ±0



Newton-Gravitation
Partikel Masse 1 ±0,2



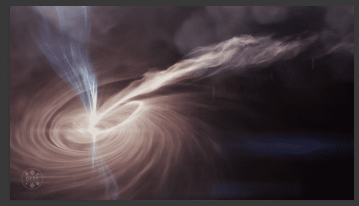
Newton-Gravitation
Partikel Masse 1 ±0,2
Turbulenz



» Geisterteilchen enthüllt kosmischen Beschleuniger «

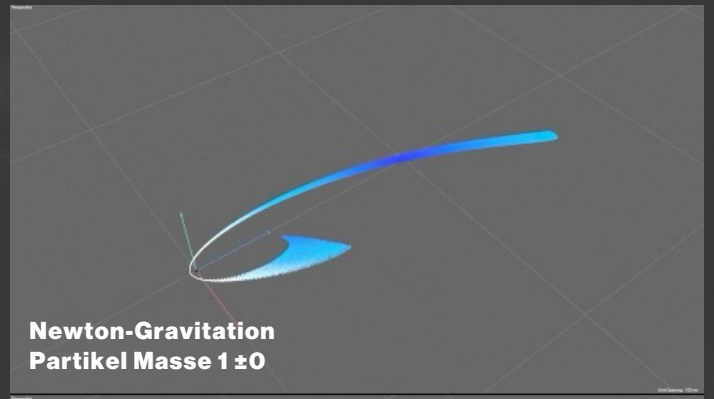
Bild, Video

finale Simulation hat zusätzlich etwas Viskosität erhalten

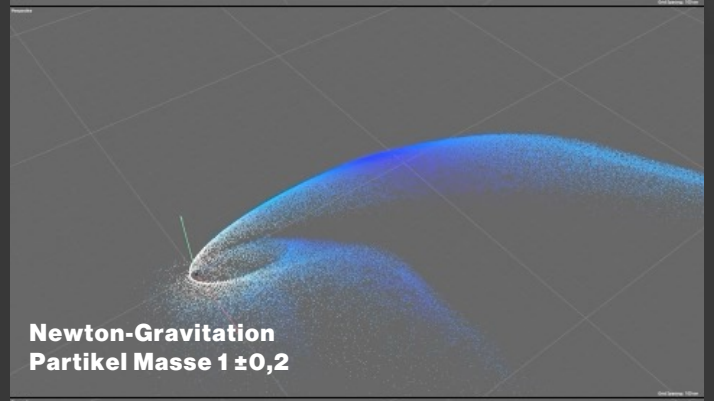


» Lichtecho verrät kosmische Katastrophe«

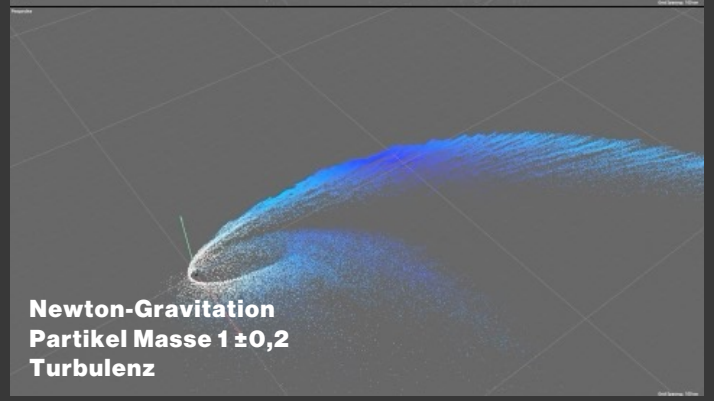
Bild, Video



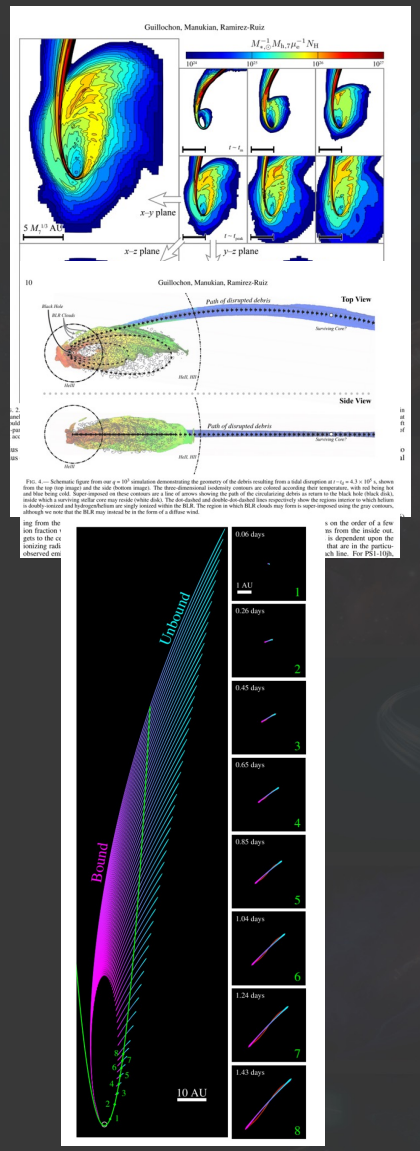
Newton-Gravitation
Partikel Masse 1 ±0



Newton-Gravitation
Partikel Masse 1 ±0,2



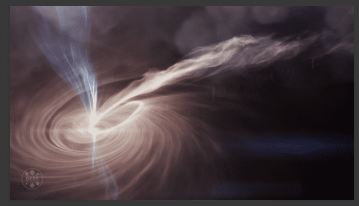
Newton-Gravitation
Partikel Masse 1 ±0,2
Turbulenz



» Geisterteilchen enthüllt kosmischen Beschleuniger «

Bild, Video

finale Simulation hat zusätzlich etwas Viskosität erhalten

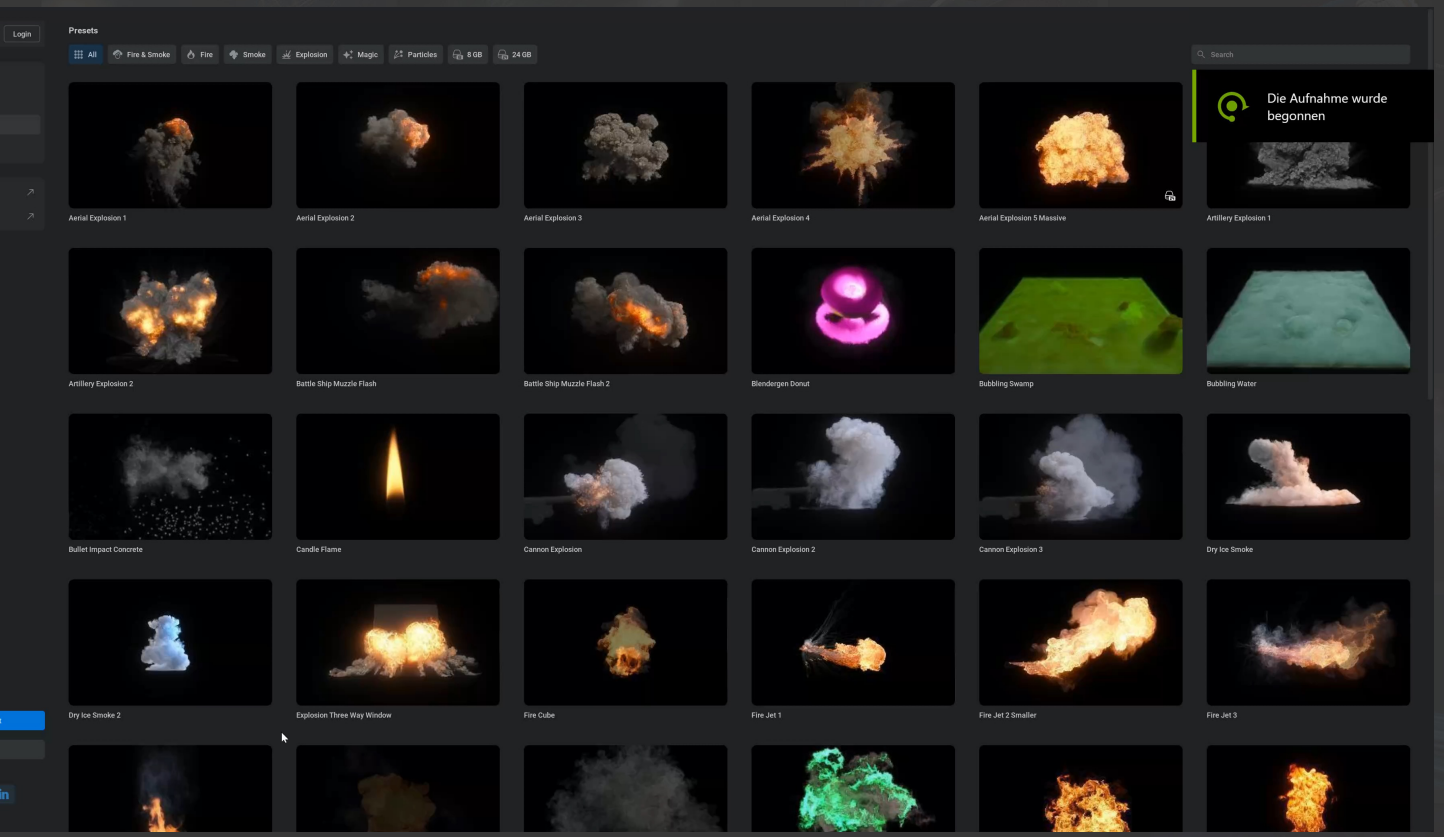


» Lichtecho verrät kosmische Katastrophe«

Bild, Video

Prozess: Briefing · Dummy · Styleframes · **Animation** · Rendering · Postproduktion · Sound

2017 2018 2019 2020 2021 2022 2023



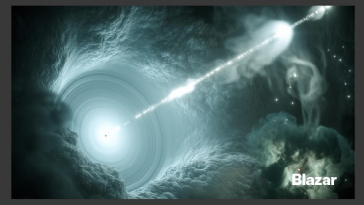
» Geisterteilchen enthüllt kosmischen Beschleuniger «

Bild, Video

» Lichtecho verrät kosmische Katastrophe«

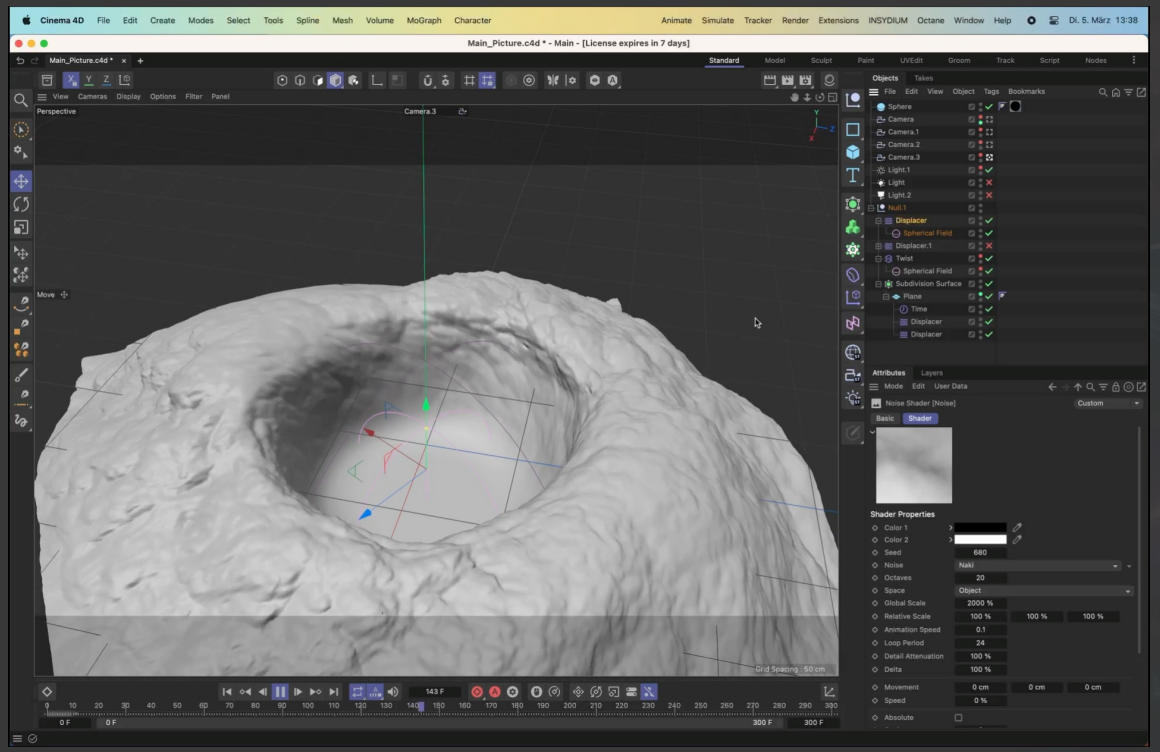
Bild, Video

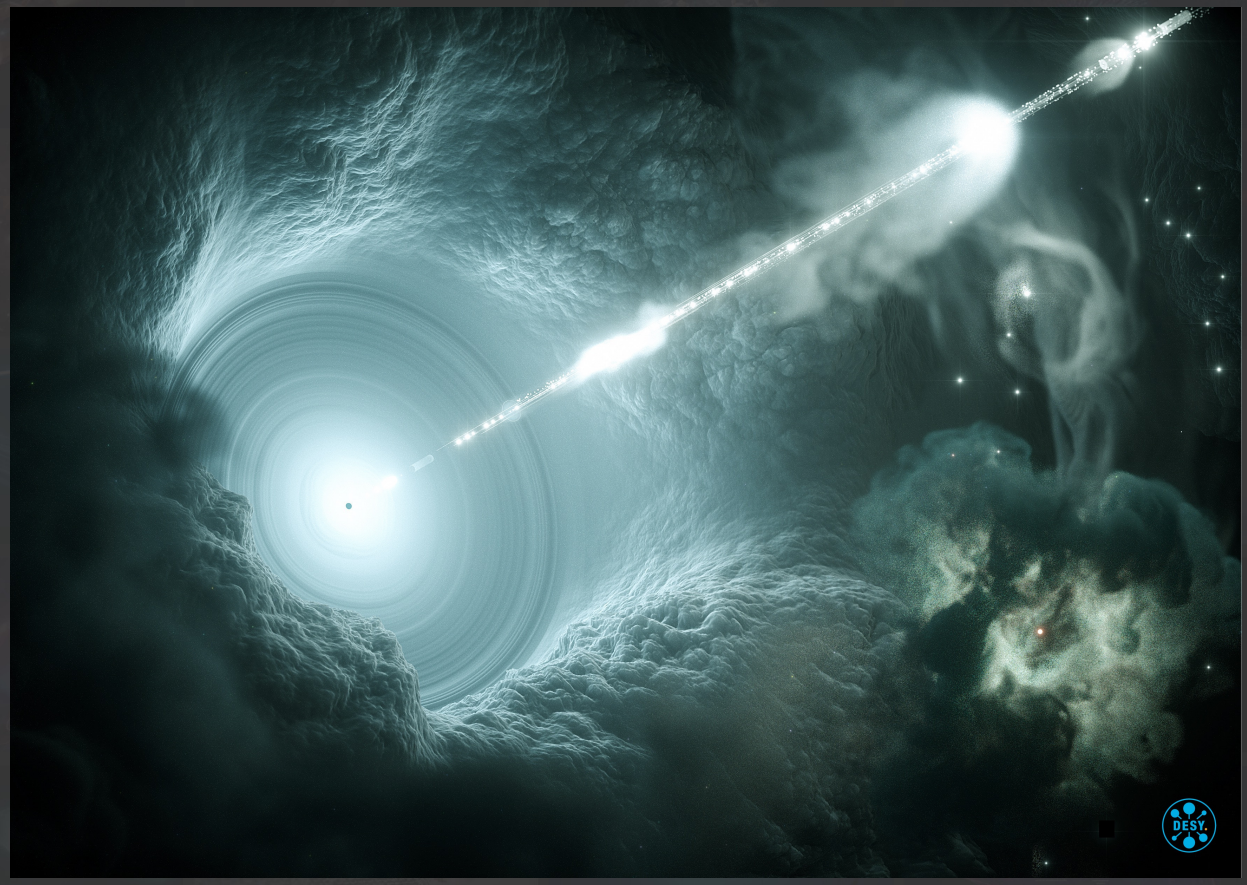
Prozess: Briefing · Dummy · Styleframes · **Animation** · Rendering · Postproduktion · Sound



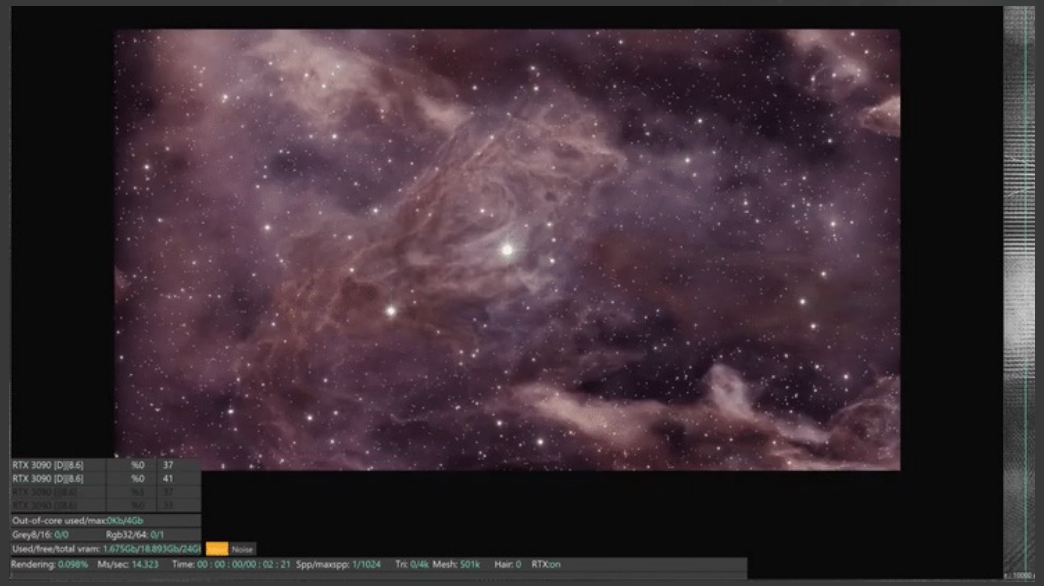
» Durchbruch bei der Fahndung nach Teilchenbeschleunigern im Weltall «

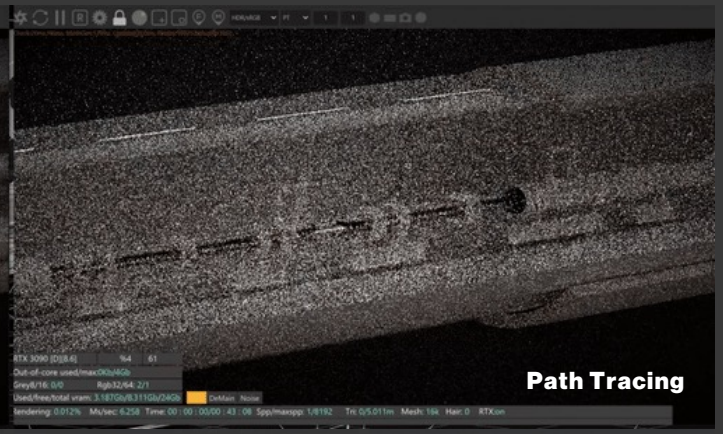
Bild, Video, Website





Prozess: Briefing · Dummy · Styleframes · **Animation** · Rendering · Postproduktion · Sound





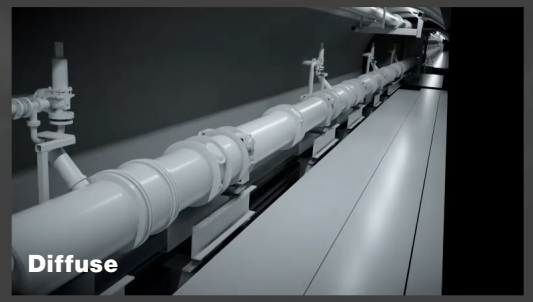
» Doppelstern als kosmischer Teilchenbeschleuniger «

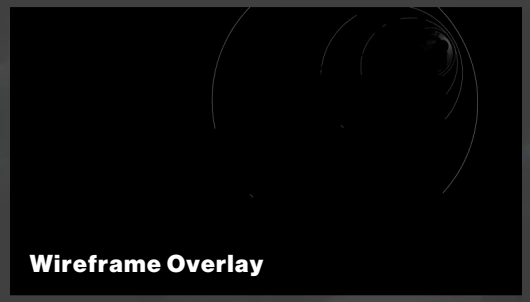
Bild, Video

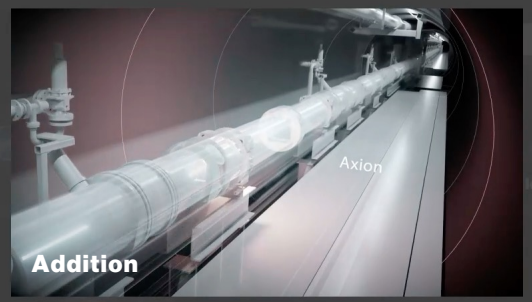
» Licht-durch-die-Wand-Experiment«

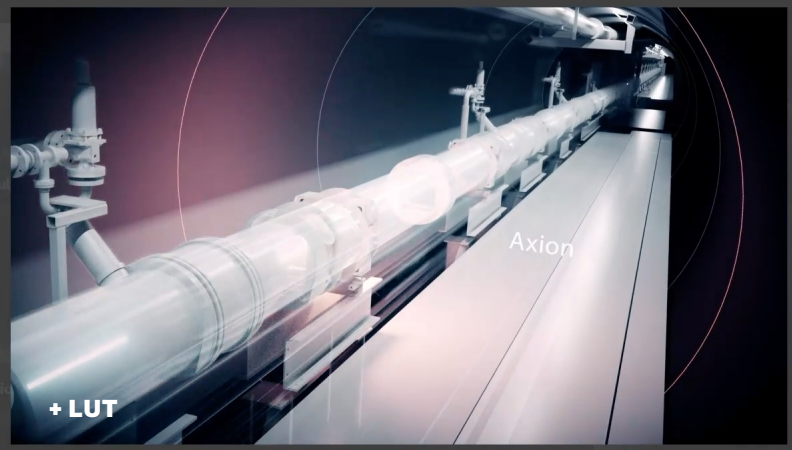
Bild, Video, Website, Flyer

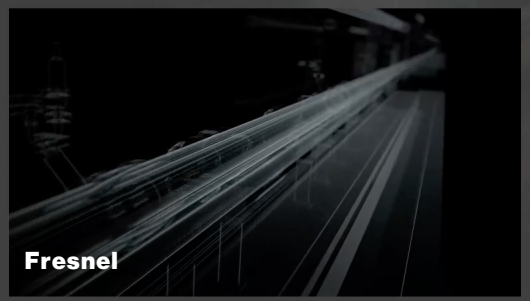
Prozess: Briefing · Dummy · Styleframes · Animation · **Rendering** · Postproduktion · Sound











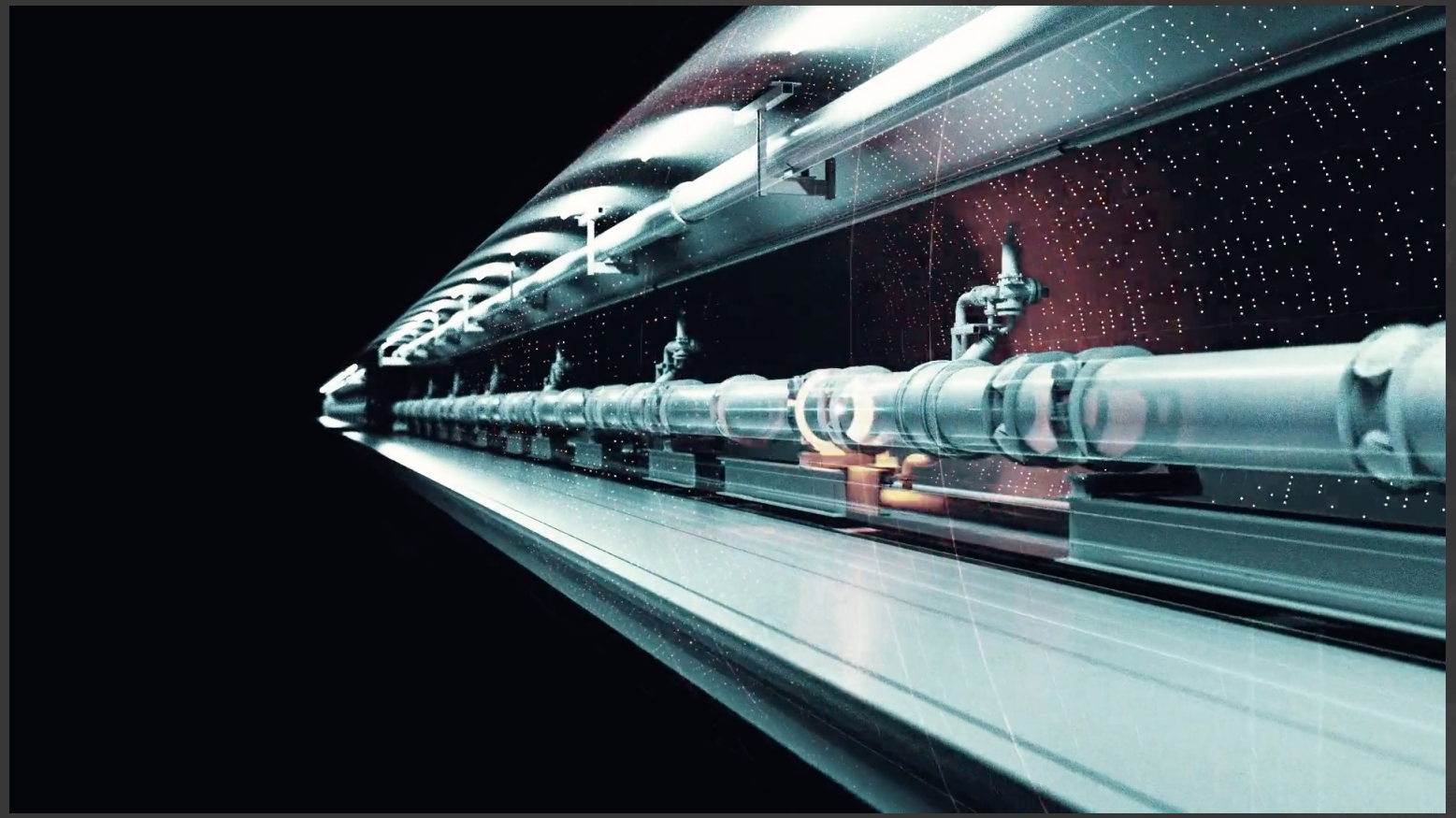
Licht-durch-die-Wand-Experiment ALPS

Bild, Video, Poster, Website

Prozess: Briefing · Dummy · Styleframes · Animation · Rendering · **Postproduktion** · Sound

» Any Light Particle Search «

Bild, Video, Website



Prozess: Briefing · Dummy · Styleframes · Animation · Rendering · Postproduktion · **Sound**

2017 2018 2019 2020 2021 2022 2023

Molekulares Schwarzes Loch Blazar PETRA IV IceCube Gen2 Nova Neutrinokarte

Tidal Disruption Event PETRA IV Vela Pulsar

Corona-Test Kaldera-Website Opto-Acoustic-Laser

Kaldera PETRA IV

GRB 190829A DESY

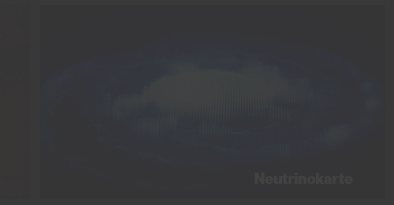
Tau-Neutrino Micro-Quasar SS433

» Any Light Particle Search «

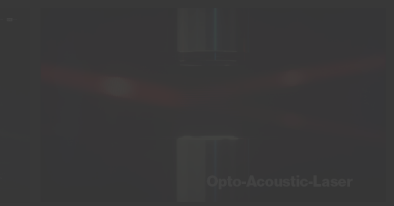
Bild, Video, Website

Prozess: Briefing · Dummy · Styleframes · Animation · Rendering · Postproduktion · **Sound**

2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029


Neutrinokarte


Vela Pulsar


Opto-Acoustic-Laser


PETRA IV


DESY


Ausblick

2023 2024 2025 2026 2027 2028 2029

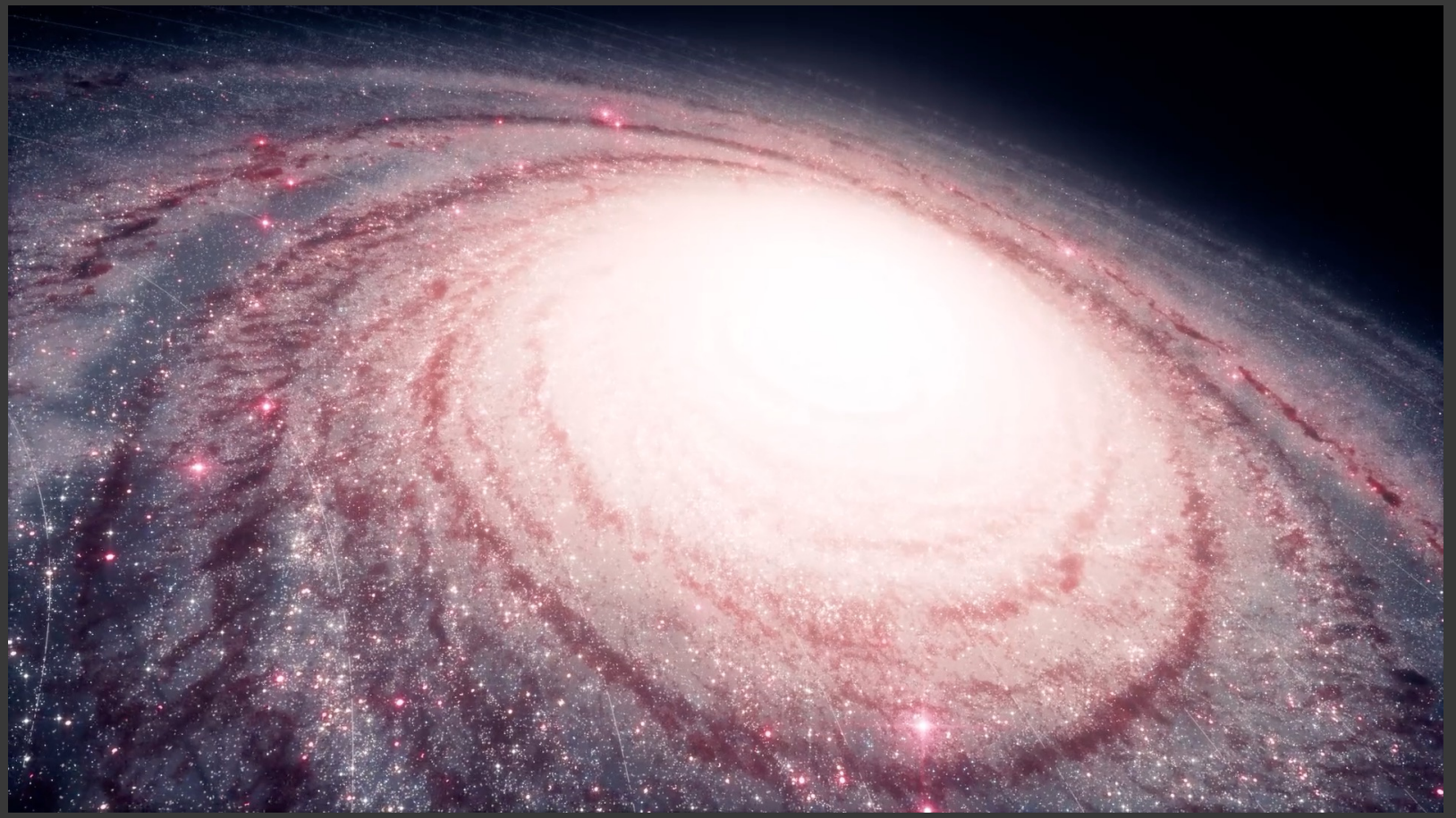
» Milchstraße im Neutrinolicht «

Bild, Video, Website

Planetarium

+

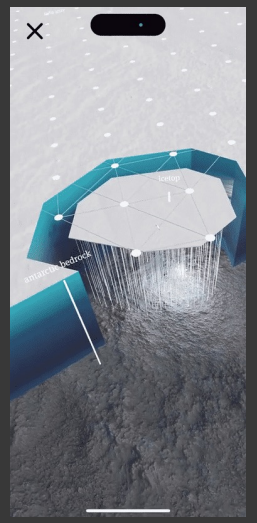
VR

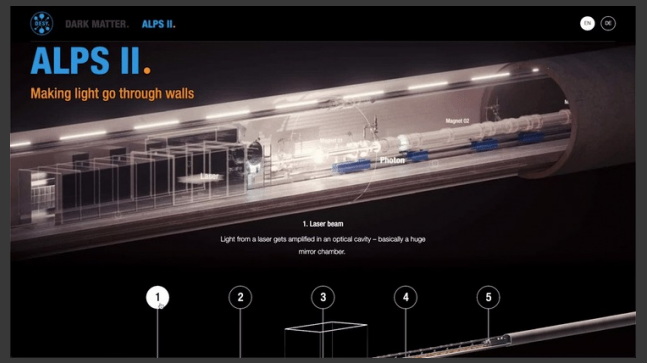


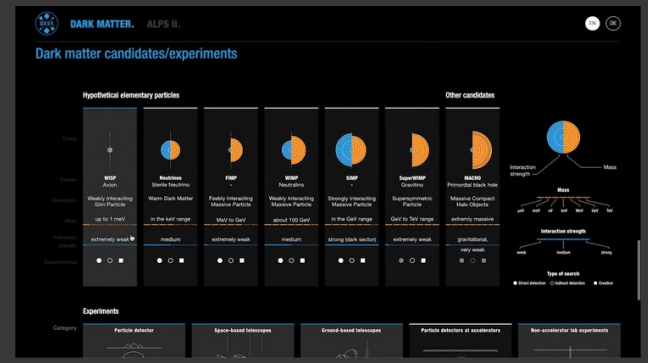
Ausblick

2023 2024 2025 2026 2027 2028 2029

AR-Projekt

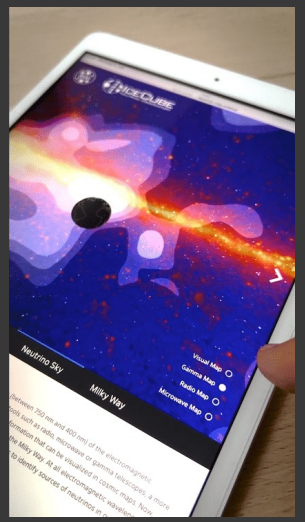


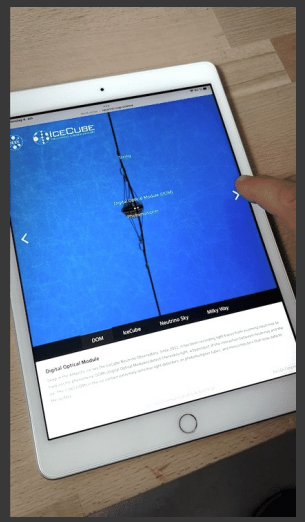




ALPS II und Dark Matter-Website

Mehr interaktiv





Neutrino-Map-Website

Kaldera-Website

Ausblick

2023 2024 2025 2026 2027 2028 2029

Vereinigung verschiedener Kataloge, Surveys

- **Mangrove**
- **Glade+**
- **Gaia**
- **Euclid**
- **SDSS**
- **...**

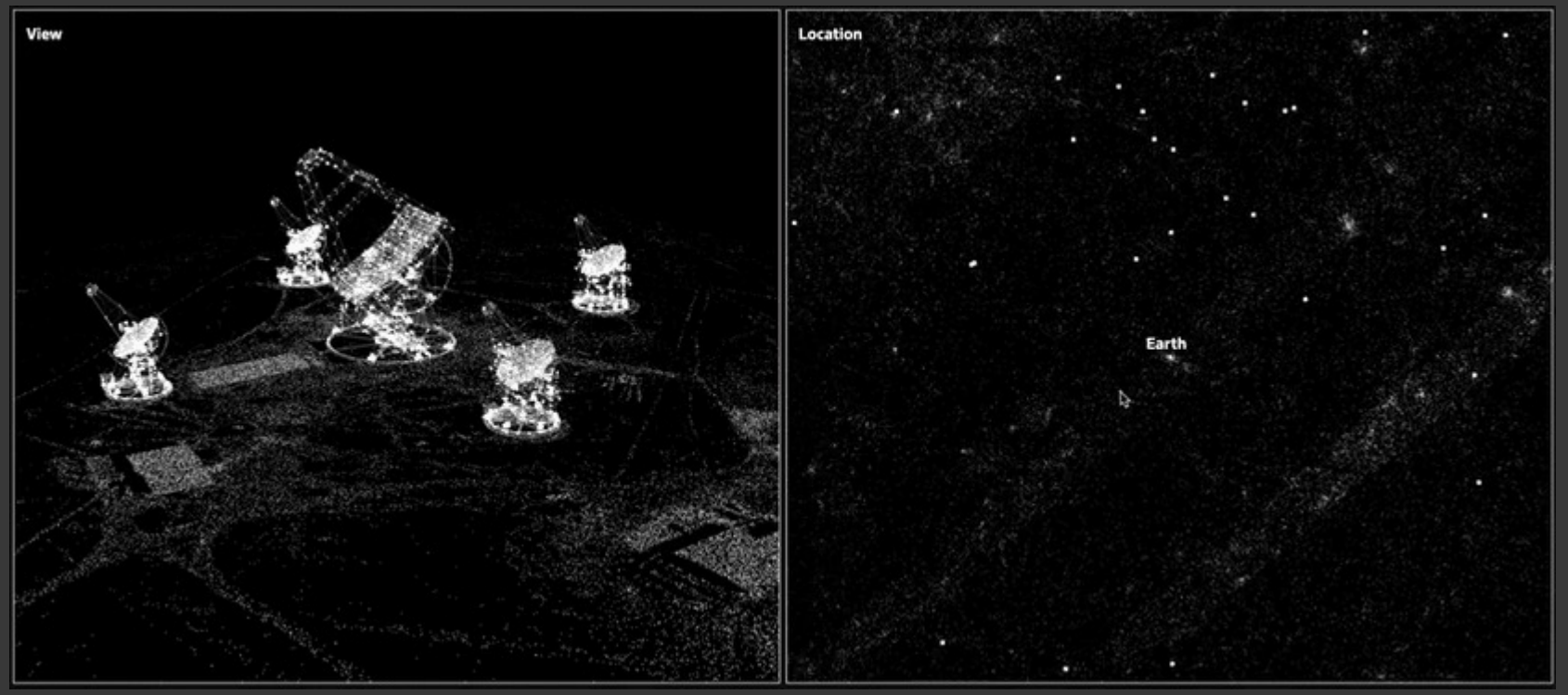
Verortung von Transienten und Objekten

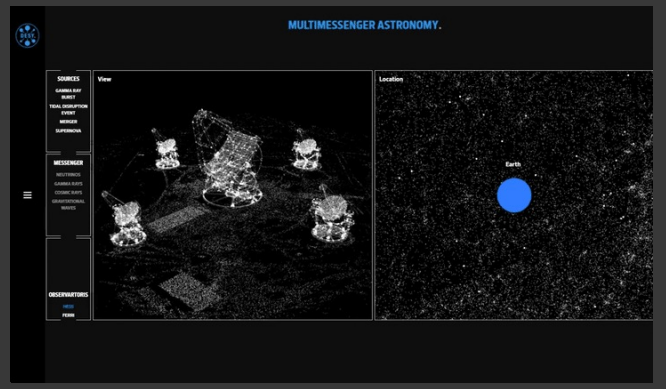
- **GRBs**
- **Merger**
- **TDEs**

Mehr interaktiv

Ausblick

Auszug aus der Multimessenger-Portals





Danke