

Directions in BSM

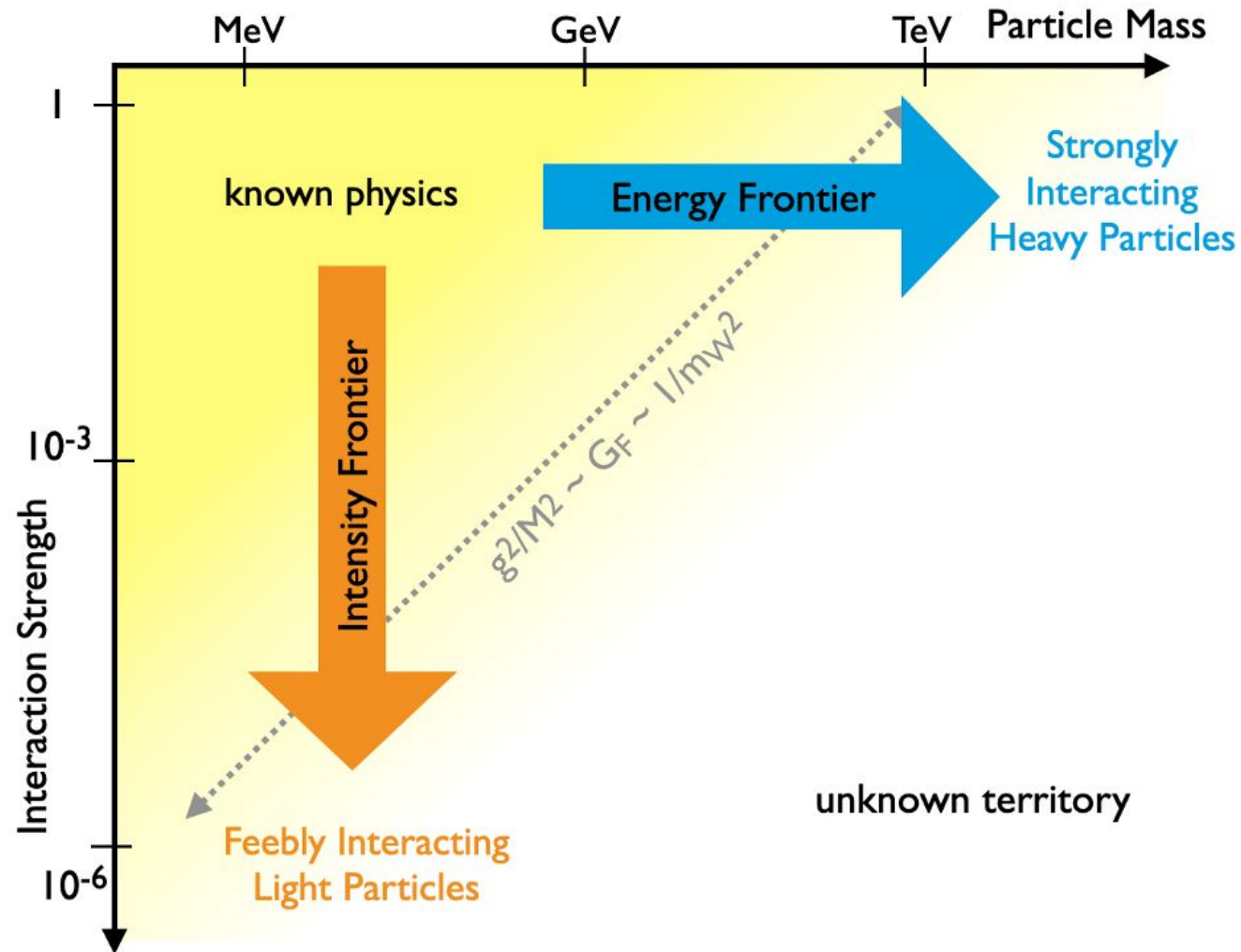
Selected ATLAS group inputs to PoF V

Federico Meloni (DESY), on behalf of the ATLAS group

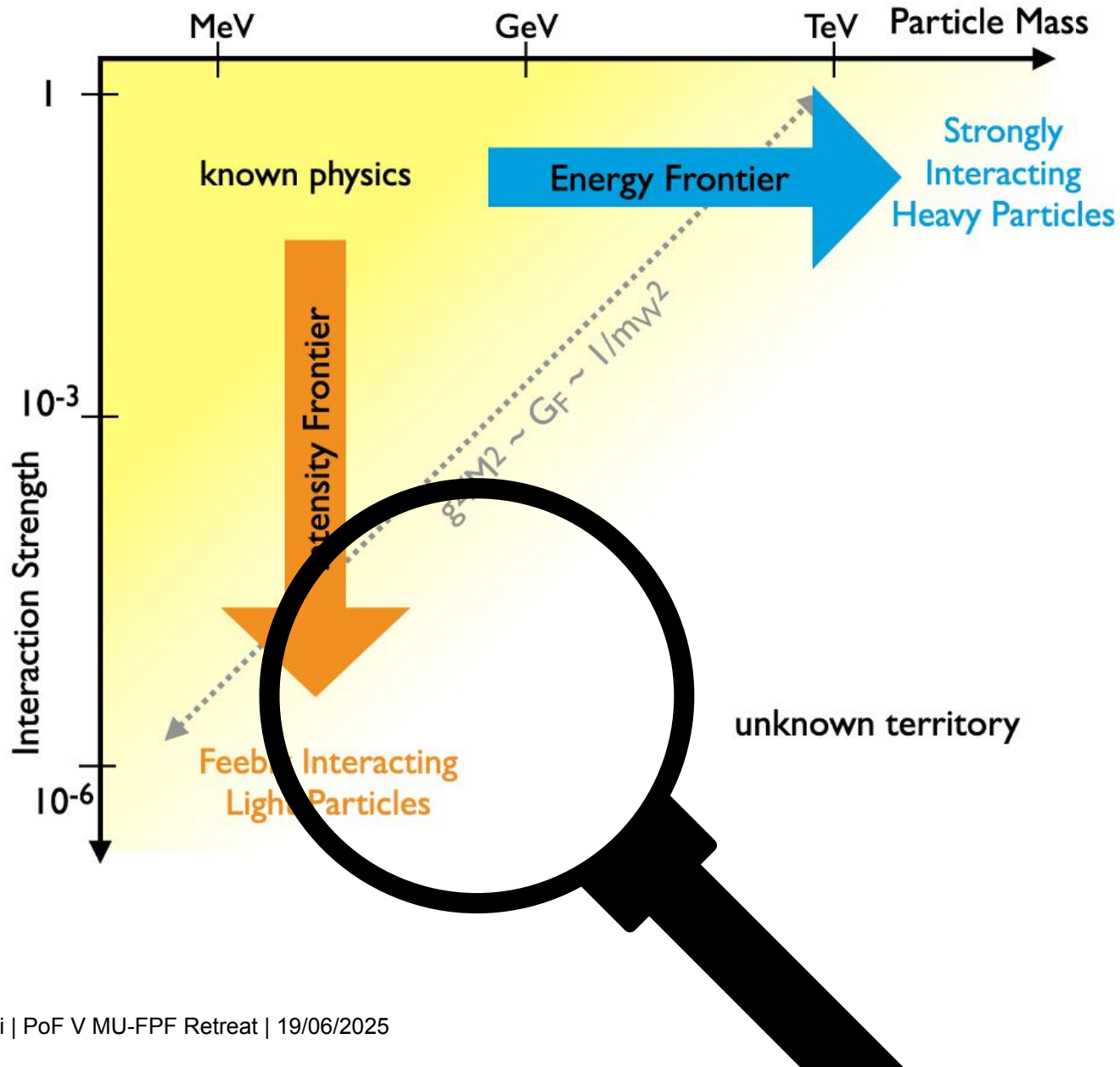
PoF V MU-FPF Retreat
19/06/2025



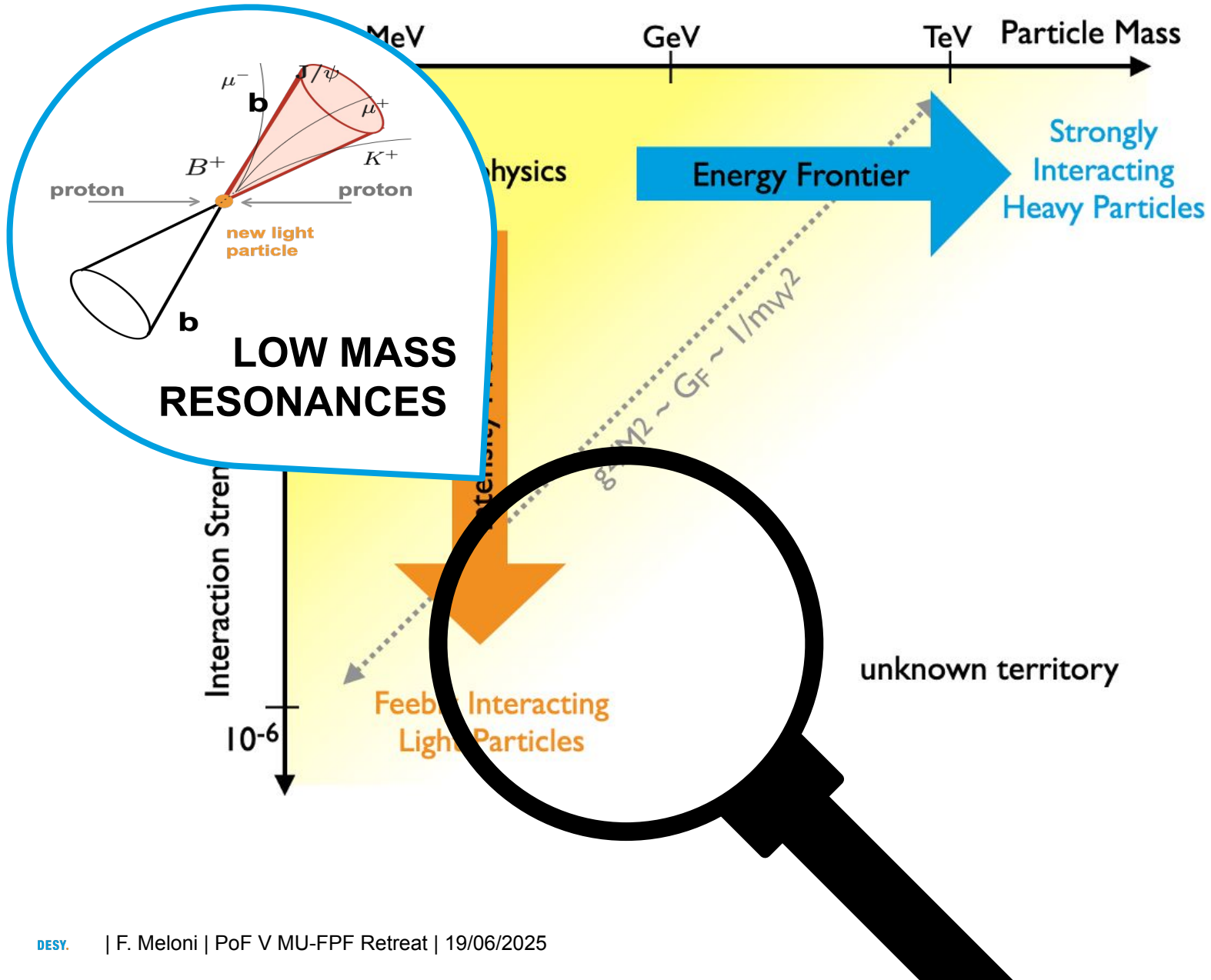
(Some) Frontiers in BSM



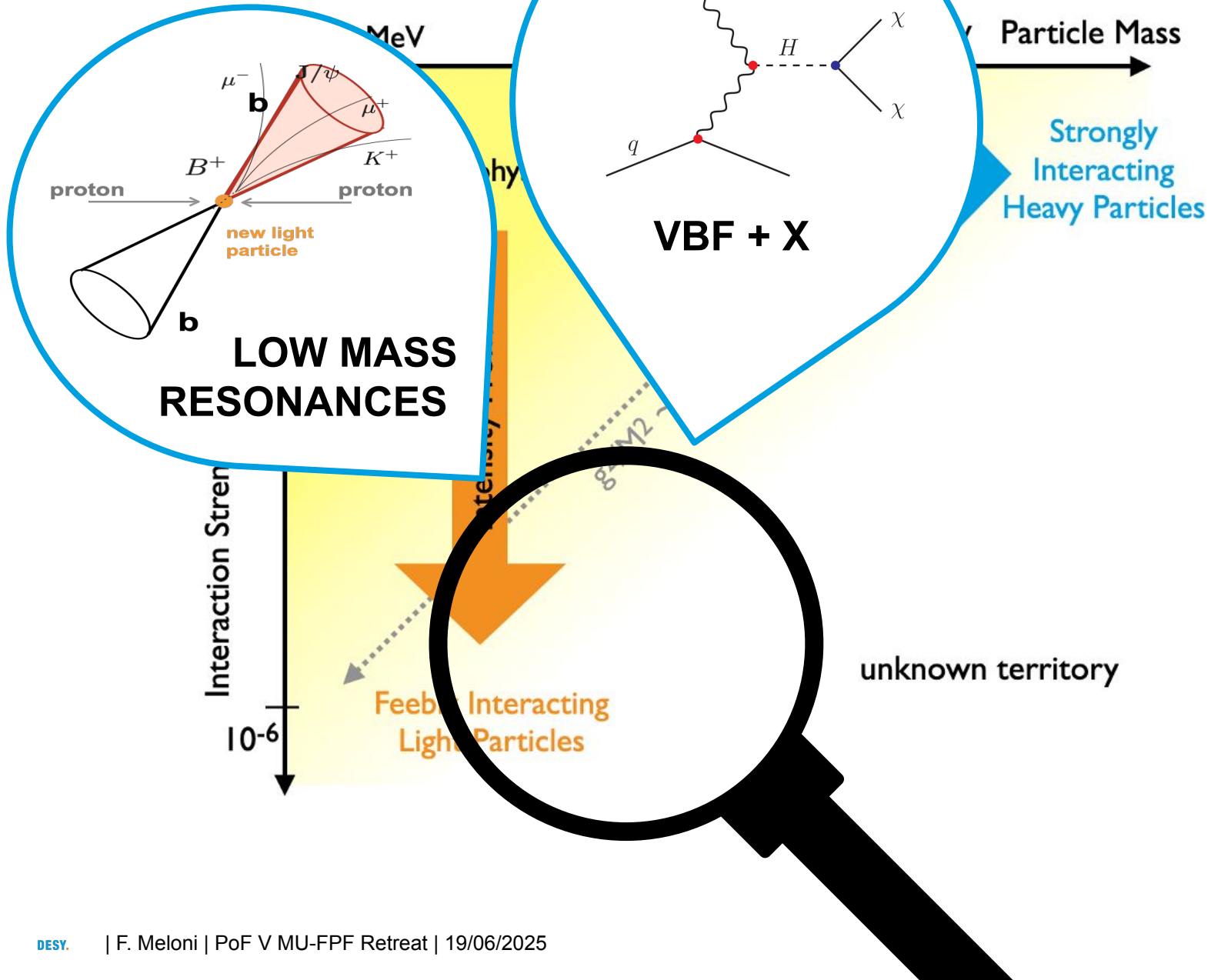
Zooming on low masses



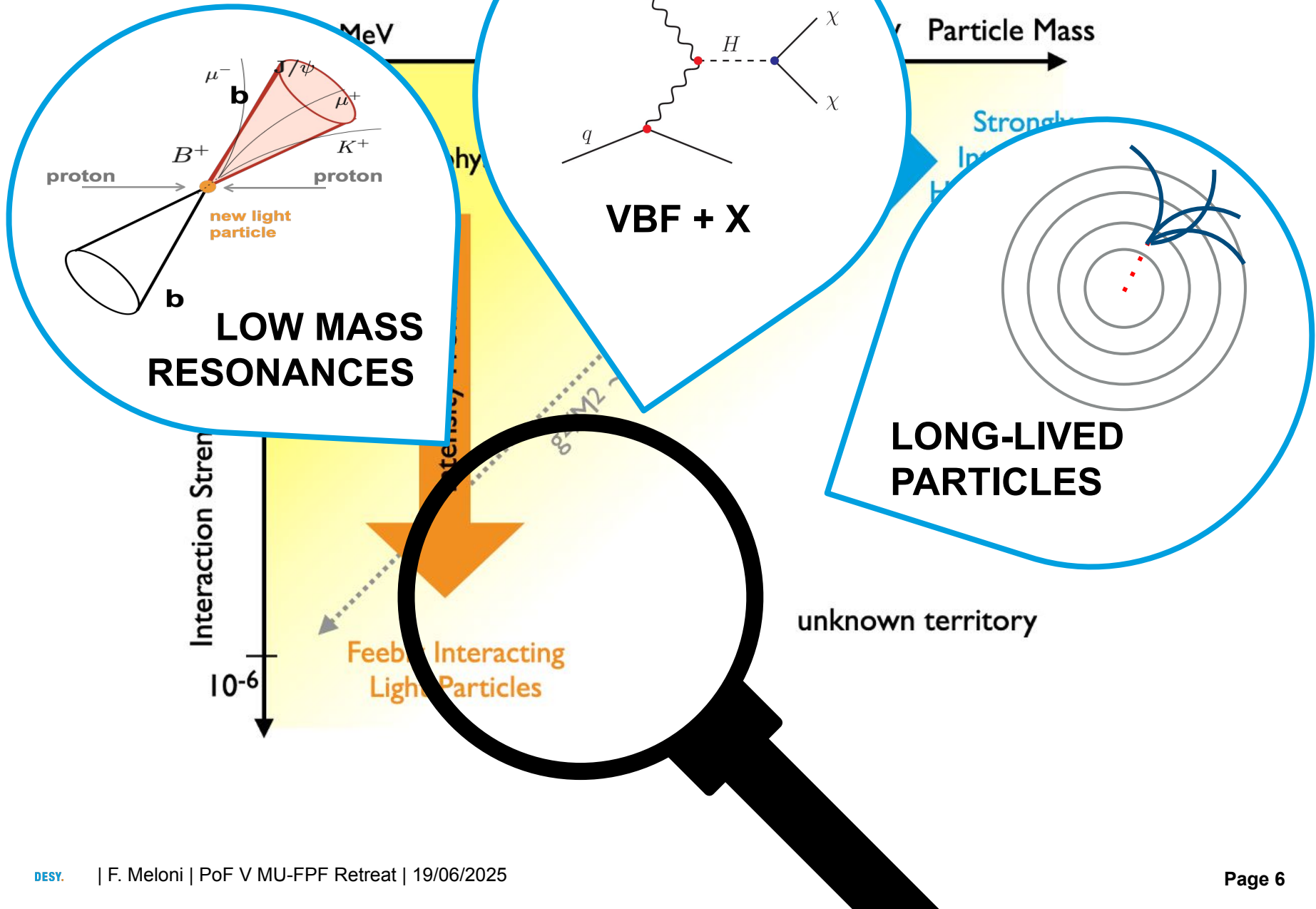
Zooming on low masses



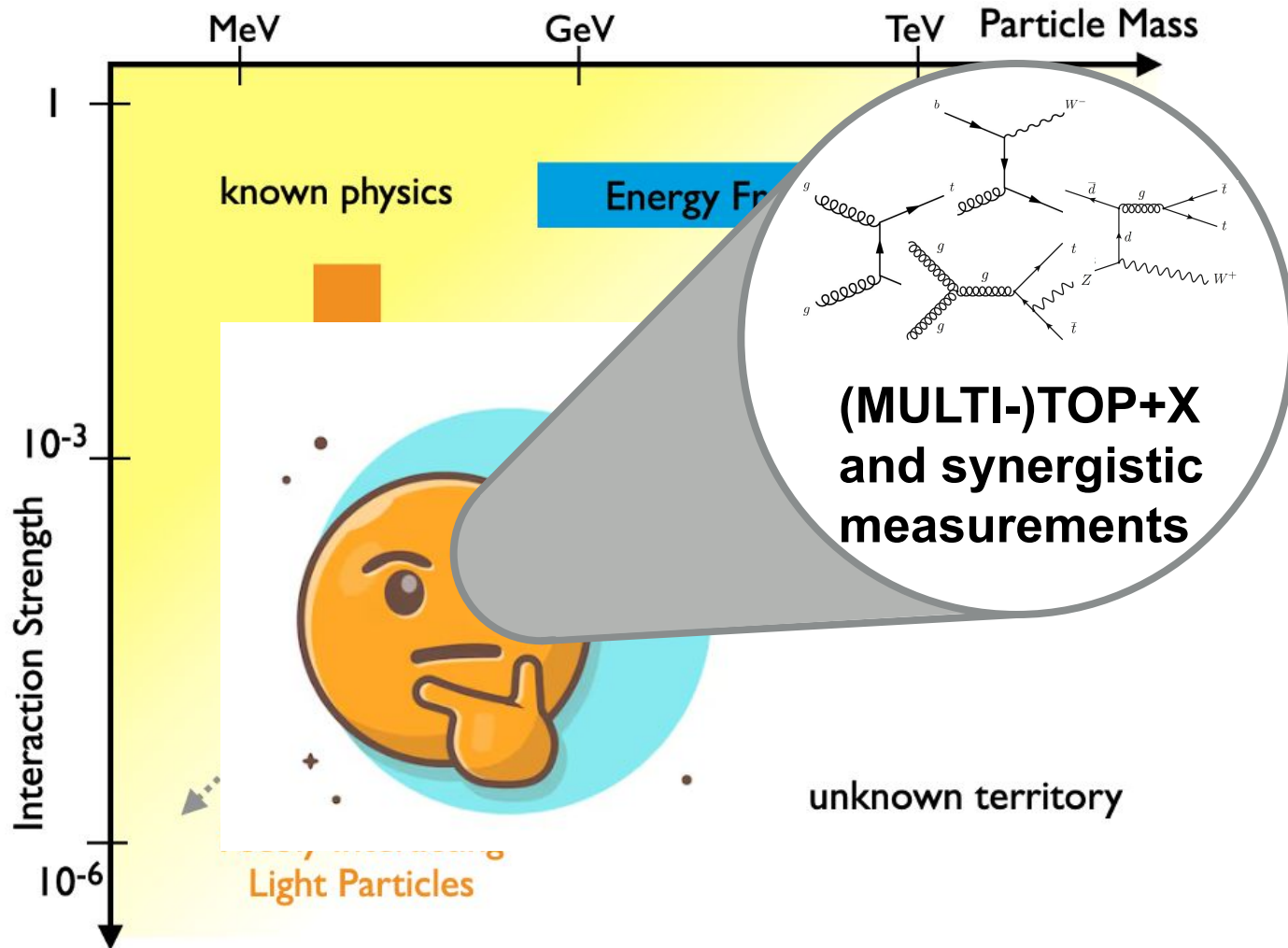
Zooming on low m



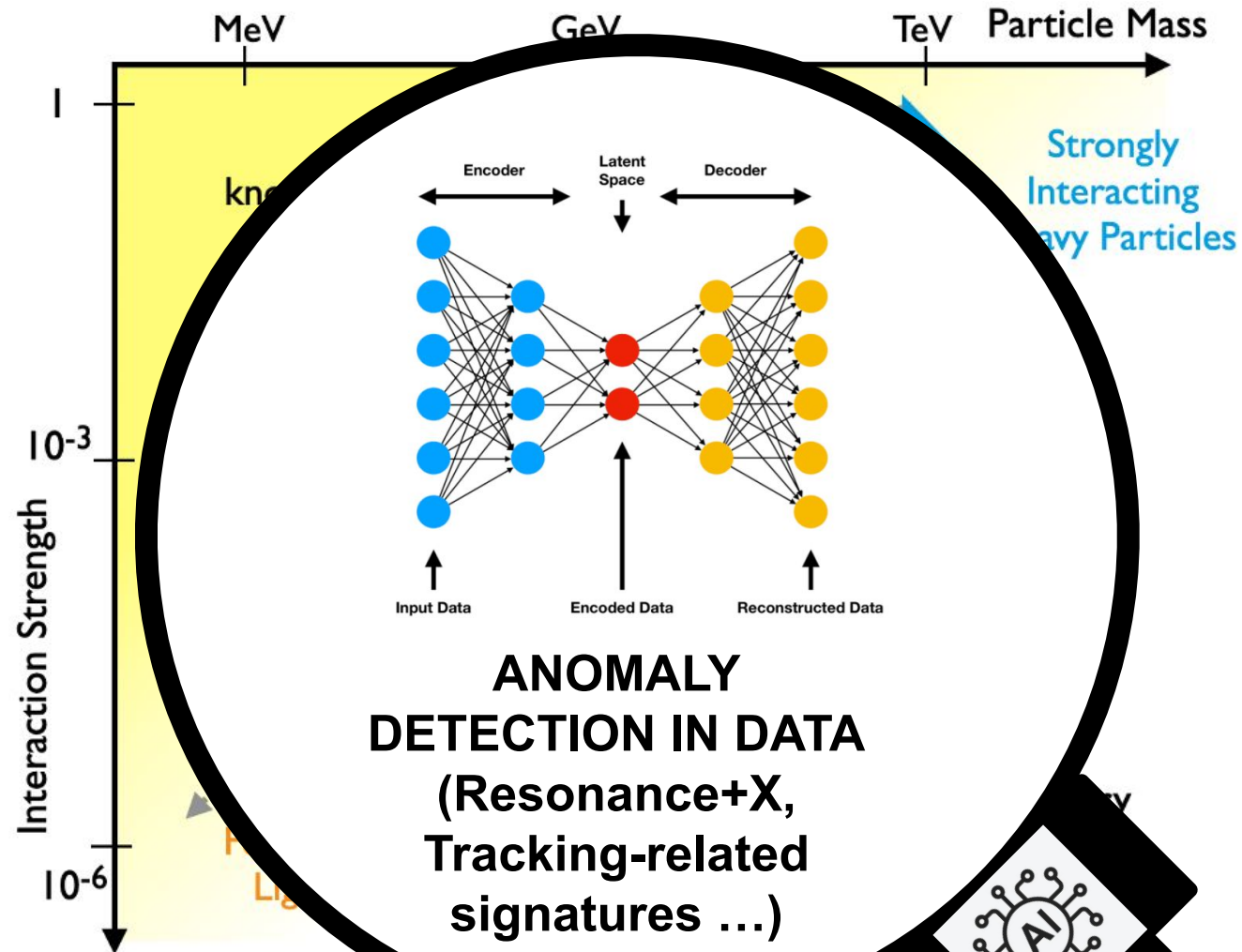
Zooming on low m



Do we really drop the high mass? No!



Looking for unknown unknowns



Summary of highlights

End of 2034: up to 1ab^{-1} of new data (+500fb $^{-1}$ at 13-13.6 TeV)

- Substantial jump in luminosity

1. Push towards low/intermediate masses and small couplings

- Higgs and extended Higgs sectors as portals

2. High mass probed together with synergistic measurements

- (multi-)top+X as special focus

3. Anomaly searches

Targets picked to maximally profit from upgraded detectors (ITk)

- Tracking acceptance
- Higher precision