Contribution ID: **15**   Type: **not specified**

Local Source Simulations in CRPropa - Status & Applications

Monday 30 September 2019 11:00 (30 minutes)

CRPropa itself is written to suit astrophysical simulations across (extra-) galactic distances, yet already features many aspects necessary to simulate phenomena inside the sources of cosmic rays themselves. I shall present an extended version of CRPropa applicable on (yet not constrained to) sub-kpc-scales making use of customizable photon fields, hadron-hadron interactions, as well as fully customizable space- and time dependence in all of CRPropa's interaction modules and background fields. These abilities allow for CRPropa to enter previously inaccessible realms of astrophysics which I wish to illustrate at the example of physics in jets of active galactic nuclei.

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Session Classification: Presentations 2