



SPRACE

# Updates 01/07

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SPRACE-ML



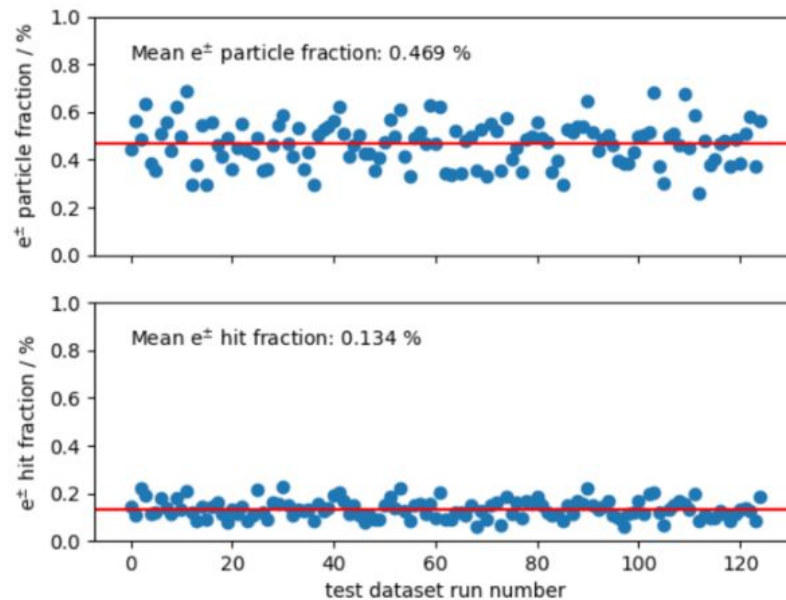
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# Blacklist data

Data issue (funny tracks)

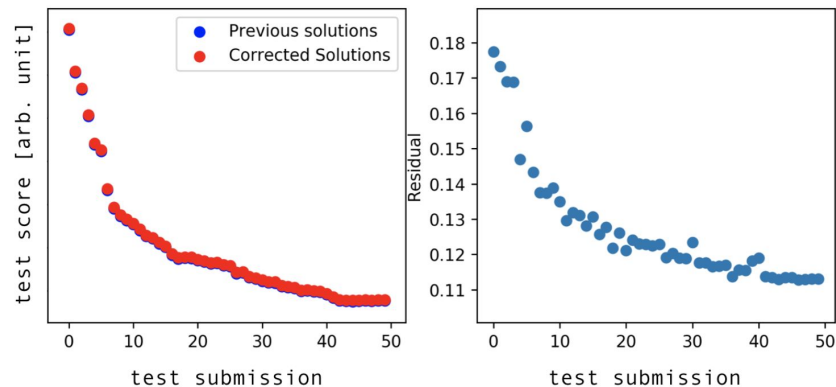
# Electron and the broken trajectories

- ❑ Electrons has a lower mass than all other charged particles
- ❑ Highland -> Rossi-Greisen formula
- ❑ Faulty unit (MeV instead of GeV) in the simulation for electron
- ❑ A low-energy MeV scale particle scatters significantly more than a high-energy particles, thus leading to the broken trajectories found in the dataset.



# Impact evaluation on score

- ❑ Electrons tend to occur as secondary particles with low momentum and a lower average number of hits
- ❑ After removing these “Funny tracks” the submitted solutions gain a fractional increase of about 0.16%
- ❑ We can download the “blacklist dataset” and remove these tracks from our datasets



source: <https://www.kaggle.com/c/trackml-particle-identification/discussion/61455>



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# Nearest hit

Performance analysis of different algorithms

# Nearest hit

Search the nearest hit

