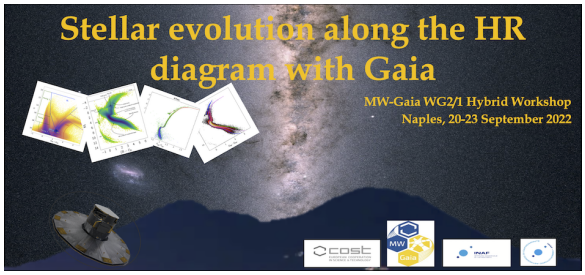

Contribution ID: **40** Type: **not specified**

Transferring spectroscopic stellar labels to Gaia DR3 stars with supervised learning

Tuesday, 20 September 2022 10:20 (20 minutes)

The Gaia Data Release 3 (DR3, published in June 2022) has delivered astrometric, photometric, and spectroscopic measurements for more than a billion stars. The wealth and complexity of the data makes traditional approaches for estimating stellar parameters for the full Gaia dataset prohibitive. We have explored different supervised learning methods for extracting basic stellar parameters as well as distances and line-of-sight extinctions, given spectro-photo-astrometric data, taking advantage of the newly released Gaia BP/RP spectra. For training we use an enhanced high-quality dataset compiled from Gaia DR3 and ground-based spectroscopic survey data covering the whole sky and all Galactic components. We present first results obtained using the full wealth of Gaia DR3 data, demonstrating that thanks to the BP/RP spectra we can now deliver more reliable stellar parameters, especially metallicities. It also allows us to extend the covered parameter space to regions that are difficult for classical isochrone-based methods such as StarHorse (e.g. white dwarfs or hot stars).

Presenter: ANDERS, F.

Session Classification: Overview on Gaia data/products and their use