

Fifth MODE Workshop on Differentiable Programming for Experiment Design



Sunday 8 June 2025 - Friday 13 June 2025

OAC conference center, Kolymbari, Crete, Greece.

Scientific Programme

Methods and tools

Methods and/or software for differentiable programming and/or deep learning, with a particular focus on fully differentiable optimization pipelines.

We will reserve the right of migrating these contributions to a more suitable track.

Applications in Muon Tomography

Applications of differentiable programming and/or deep learning to muography, or interesting use cases in muography that may profit from a differentiable optimization pipeline.

We will reserve the right of migrating these contributions to a more suitable track.

Applications in Particle Physics

Applications of differentiable programming and/or deep learning to particle physics, or interesting use cases in particle physics that may profit from a differentiable optimization pipeline.

This includes both detector and accelerator optimization.

We will reserve the right of migrating these contributions to a more suitable track.

Applications in Astro-HEP and Neutrino Physics

Applications of differentiable programming and/or deep learning to astrophysics and cosmology, or interesting use cases in astrophysics and cosmology that may profit from a differentiable optimization pipeline.

We will reserve the right of migrating these contributions to a more suitable track.

Applications in Nuclear Physics

Applications of differentiable programming and/or deep learning to nuclear physics, or interesting use cases in nuclear physics that may profit from a differentiable optimization pipeline.

This includes applications of nuclear physics to medical physics.

We will reserve the right of migrating these contributions to a more suitable track.

Applications in Medical Physics, and Other Applications

Applications of differentiable programming and/or deep learning to medical physics that may profit from a differentiable optimization pipeline.

Also abstracts that are related to the concept of differentiable pipelines for optimization, but that may not fall clearly in any of the other tracks.

We will reserve the right of migrating these contributions to a more suitable track.