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## **The Dirac operator in spherically symmetric settings**

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April 26, 2022

11:30–12:30

in T212

Fakulta jaderná a fyzikálně inženýrská ČVUT  
Trojanova 13, 12000 Praha

**Abstract:** We will consider the Dirac operator in settings with radial symmetry. In particular, we are interested in describing the self-adjointness of Dirac operators with Coulomb-type spherically symmetric potentials on the whole space and on two and three dimensional cones. In such cases, the analysis reduces to the study of a radial Dirac operator on the half-line and of a spin-orbit operator on the transverse dimensions. Appropriate weighted Hardy inequalities are the main tools in these results. These are joint works with Fabio Pizzichillo, Matteo Gallone and Vladimir Lotoreichik.