



— Cours thématiques du CPHT —

Surface Charges in Gravity and Gauge Theories

Two lectures by **Adrien Fiorucci** (CPHT)

Centre de Physique Théorique, École polytechnique
Salle de conférences Louis-Michel
April 21 & 28, 2026 from 11:00 to 13:00

Abstract

These lectures will provide an introduction to covariant phase space methods for computing conserved charges in gauge theories, with particular emphasis on gravity. Recent developments will be discussed and illustrated through the computation of gravitational charges and charge algebra in flat or anti-de Sitter spacetimes. **Plan:** (1) jet-bundle construction; (2) Noether's theorems in the context of gauge theories; (3) surface charges from covariant phase space; (4) charge algebra, conservation and integrability.

Organisers: M. Petropoulos, J. Rong, F. Russo

