

## Multipolar Hardy inequalities on Riemannian manifolds

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In this talk, we prove multipolar Hardy inequalities on complete Riemannian manifolds, providing various curved counterparts of some Euclidean multipolar inequalities due to Cazacu and Zuazua [Improved multipolar Hardy inequalities, 2013]. We will notice also that our inequalities deeply depend on the curvature, providing (quantitative) information about the deflection from the flat case. By using these inequalities together with variational methods and group-theoretical arguments, we also establish non-existence, existence and multiplicity results for certain Schrödinger-type problems involving the Laplace-Beltrami operator and bipolar potentials on Cartan-Hadamard manifolds and on the open upper hemisphere, respectively. Talk based on the paper [1]

### References

- [1] F. Faraci, C. Farkas, A. Kristály, Multipolar Hardy inequalities on Riemannian manifolds, ESAIM: CONTROL OPTIM. AND CALC. OF VARIATIONS, 24 (2018), no. 2, 551–567.