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Dark matter in the Milky Way: new dynamical constraints

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The distribution of dark matter in the Milky Way is poorly constrained at present and represents a major uncertainty for both direct and indirect dark matter searches. In this talk, I shall present new constraints on the dark matter distribution based on photometric and dynamical observations of our Galaxy. First, state-of-the-art models for the distribution of baryons are calibrated against the latest data, paying special attention to the morphology of the bulge, stellar disk and gas. Second, a new up-to-date compilation of galactic rotation curve measurements is set up in order to pinpoint the total gravitation potential. I will then show how the combination of these two ingredients provides interesting constraints not only on the dark matter local density but also on its profile across the Galaxy.

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