Seventeenth Marcel Grossmann Meeting



Contribution ID: 239

Type: Talk in a parallel session

The Baryonic Mass Estimates of the Milky Way Halo in the form of High Velocity Clouds

Tuesday, 9 July 2024 18:05 (20 minutes)

The halo of our Galaxy is populated with a significant number of high-velocity clouds (HVCs) moving with a speed up to 500 km/s. It is suggested that these HVCs might contain a non-negligible fraction of the missing baryons. We aim to estimate the baryonic mass of the Milky Way halo in the form of HVCs to constrain a fraction of missing baryons in the form of these clouds. Such findings would substantially help in studying our Galaxy's halo dynamics. Here we summarise our estimates on the baryonic mass of the Milky Way halo in HVCs. We estimate that the total mass of the Milky Way halo resulted to be $\sim (7 \pm 2) \times 10^9 M_{\odot}$ in the form of HVCs and compact high-velocity clouds (CHVCs).

Primary author: Dr TAHIR, Noraiz (Department of Physics, School of Natural Sciences (SNS), National University of Science and Technology (NUST), H12, Islamabad, Pakistan)

Co-authors: Prof. DE PAOLIS, Francesco (Department of Mathematics and Physics "Ennio De Giorgi", University of Salento, Via per Arnesano, 73100, Lecce, Italy; INFN, Sezione di Lecce, Via per Arnesano, 73100, Lecce, Italy; INAF, Sezione di Lecce, Via per Arnesano, 73100, Lecce, Italy); LÓPEZ-CORREDOIRA, Martín (Departamento de Astrofisica, Universidad de La Laguna, E-38205, Tenerife, Spain and Instituto de Astrofisica, de Canarias, La Laguna, E-38205, Tenerife, Spain)

Presenter: Dr TAHIR, Noraiz (Department of Physics, School of Natural Sciences (SNS), National University of Science and Technology (NUST), H12, Islamabad, Pakistan)

Session Classification: Dark matter halos: its nature, modeling & tracers

Track Classification: Dark Matter (DM): Dark matter halos: its nature, modeling & tracers