**Tata Institute of Fundamental Research**
Survey No. 36/P, Gopanpally Village, Serilingampally, Ranga Reddy Dist., Hyderabad – 500 046

# Internal Webinar

## Exact accelerated and curved nonlinear wave solutions in Low Earth Orbital (LEO) plasma region in presence of charged space debris objects

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An indirect detection technique of charged space debris objects has been proposed recently by A. Sen et. al [Sen, A., Tiwari, S., Mishra, S., Kaw, P.: Adv. Space Res. 56, 429 (2015)], by measuring precursor solitons induced by such debris objects. Motivated by this work, we have derived special exact accelerated soliton solutions (velocity of the soliton changes over time whereas its amplitude remains constant), exact curved soliton solutions, accelerated lump wave solutions, etc. for different nonlinear plasma waves. These special exact solutions for nonlinear plasma waves are new in this field and may have potential applications in modeling experimental data.

***Friday, Jul 23rd 2021***

***11:30 AM***