Importance of reusable sounding rocket in the study of coupling processes in the ionosphere

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We have been studying ionopsheric structures and coupling processes between different regions of the ionosphere by means of radar, optical imagers, and rocket experiments. Our results show importance of simultaneous observations of multi parameters of both ionized and neutral atmosphere. There are, however, many limitations in the real observations. We hope for development of reusable sounding rocket as it could be a good solution for many aspects of our experimental constraint. We show some interesting results, introduce experiment plan, and discuss possible usage of reusable sounding rocket in our studies.