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STEVE, a mysterious subauroral optical structure

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The recent discovery of the subauroral phenomenon called STEVE (Strong Thermal Emission Velocity Enhancement) has been an exciting development in auroral research. Discovered by citizen scientists, STEVE is an upper-atmosphere manifestation of an extremely thin yet long ribbon of vibrant purple and white hues across the night-sky. Scientific space and ground-based instruments combined with citizen scientists data provide a unique tool to analyze this new phenomenon. STEVE is a great visual example of the complex coupling between the solar wind, Earth's magnetosphere, and its upper atmosphere. In this talk, we will review some of the current understanding that the scientific community has reached regarding STEVE, as well as some outstanding open questions.