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**Alejandro B Aceves\*** (aceves@math.unm.edu), Humanities Building 4th Floor, Albuquerque, NM 87131, and **Alexey Sukhinin** and **Jean-Claude Diels**. *Dynamics of Ultraviolet light filament and vortex propagation in the atmosphere.*

The light matter interaction when the propagation medium is air can generate a plasma for sufficiently high intensities. Such plasma acts as a defocusing mechanism which counters the critical-collapse dynamics induced by the cubic nonlinearity that accounts for the intensity dependence of the index of refraction of air. The possibility that these two physical processes lead to a stable filament or vortex dynamics will be the topic of this presentation.

Theoretical results will be compared to experiments. (Received September 21, 2007)