

Lightning Channel Growth Rate and other Puzzles

Friday, September 4, 2015

Meet and Greet:

OPS 144

3:00 - 4:00 pm

Colloquium

OPS 140

4:00 - 5:00 pm

Light refreshments will be served.



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There is no shortage of puzzles in lightning physics. Thanks to the development of high-bandwidth electronics, high-speed cameras, radiation detectors, and triggered lightning there is now a veritable zoo of phenomena, from preliminary breakdown to stepped leader, from M-component to K-change, from corona flash to space stem to retrograde luminosity wave, the list goes on. While some of these phenomena are well-understood, many remain puzzling and a unifying theory is not yet known. I will talk about my efforts to understand this zoo by modeling and data analysis, give details about some recent work on the rate of channel growth during the first few milliseconds after initiation, and close with some speculation about what a unifying theory might look like, what it might tell us, and where I see things going in the future.