

Abstract Submitted
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Characterization of an electrospinning jet from videographic observations of glints¹ KAIYI LIU, CAMDEN ERTLEY, DARRELL RENEKER, Dept. of Polymer Sci., The Univ. of Akron — Detailed relationships between glints of light reflected from the electrical bending coils of an electrospinning jet and the path of the jet were established. The path of the jet was observed by illuminating the jet with a short, intense flash of light. Glints were formed simultaneously by a continuous, intense beam of light from a chosen set of directions. As the jet path moved through the continuous beam of light, some segments of the path were oriented so that intense specular reflection (a glint) was recorded by a camera. The motion of the jet path caused a glint to create a trace in the videographic image. A linear glint trace divided into two traces when the segment producing the glint became involved in a bending instability. A smooth turn of a coil of the jet path usually produced two glints in a particular observation direction. When the smooth turn became involved in a smaller electrical bending coil, the two glints divided into many glints. Observations of this sort are expected to lead to new ways to reduce the variability in the diameter of electrospun nanofibers.

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Darrell Reneker
Dept. of Polymer Sci., The Univ. of Akron

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