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**Schlieren structures in the  
South Mountain Batholith, Nova Scotia**

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Many leucogranites exhibit melanocratic schlieren structures that can form in a variety of ways. Schlieren bands are meter-scale, ellipsoidal, bifurcating, biotite-rich, foliations commonly found near the margin of a granitic pluton. Four localities (Aspotogan, Peggy's Cove, Prospect, and Pennant Point) along the southern contact of the South Mountain Batholith (SMB), Nova Scotia, retain well-developed schlieren bands. These fine-grained biotite-rich structures differ from their coarse-grained hosts only in modal abundance of phases. These intricate structures contain information about the fluid dynamics of the system and also the physical state of the magma at time of formation. Such schlieren are most likely to form in a solidifying granite mush between the rheological percolation threshold (55% crystalline) and the particle locking threshold (75% crystalline). Innovative analogue modeling of a xenolithic block(s) falling from the roof, and a bubble train ascending from the walls simulate the *in situ* schlieren bands in the field. However, the absence of xenolith debris associated with schlieren structures of the SMB implies that their formation is more likely the result of a bubble train passing through a granite mush.

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