A SWITCHING PROPERTY FOR CRITICAL BROWNIAN LOOP-SOUPS AND SOME OF ITS CONSEQUENCES

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I will describe a new result about critical Brownian loop-soups on cable graphs and their scaling limits that may seem at first glance surprising: Conditioning two points to belong to the same cluster of loops is exactly equivalent to adding a random odd number of Brownian excursions between these points to an otherwise unconditioned configuration of loops. I will discuss various aspects and consequences of this result.