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Abstract for an Invited Paper
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Smectics with Three Dimensional Periodicity

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We discuss the ordering of liquid crystalline phases which possess both cubic symmetry and smectic-like, lamellar ordering. We will show that there is a fundamental frustration in this system. We propose an ansatz based on triply-periodic minimal surfaces. We discuss more general constructions based on topological field configurations and tessellation of the hyperbolic plane.