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*Liquid Crystals and the Heilmann-Lieb model*

In 1979, O.Heilmann and E.H. Lieb introduced an interacting dimer model with the goal of proving the emergence of a nematic liquid crystal phase in it. In such a phase, dimers spontaneously align, but there is no long range translational order. Heilmann and Lieb proved that dimers do, indeed, align, and conjectured that there is no translational order. I will discuss a recent proof of this conjecture. This is joint work with Elliott H. Lieb.