

Massachusetts Institute of Technology  
Department of Physics

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## Condensed Matter Theory Seminar

"An algebraic approach to fractional quantum Hall effect"

**Dam Thanh Son**, University of Chicago

**Abstract:** Fractional quantum Hall states are strongly interacting systems where reliable results are rare. In this talk I will present new results, reliable in a certain large  $N$  limit. Namely, we consider fractional quantum Hall states at filling factor  $\nu=N/(2N+1)$  at large  $N$  and finite  $qN$ , where  $q$  is the momentum where the system is probed. We argue that many properties can be understood based on an algebra of shape deformations the composite Fermi surface, and show how one can compute the static structure factor from algebraic manipulations alone.

**12:00pm noon**  
**Friday, March 23, 2018**  
**Duboc Room (4-331)**

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Host: Senthil Todadri