



Centro Brasileiro de Pesquisas Físicas

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MINISTÉRIO DA
**CIÊNCIA, TECNOLOGIA,
INOVAÇÕES E COMUNICAÇÕES**



PCP0184 – “ADVANCED TOPICS FROM CONDENSED MATTER THEORY”

(32h/aula – 2 créditos)

NÍVEL: Pós-Graduação

MATÉRIA LECIONADA:

In the course we will study advanced topics from Condensed Matter Theory. Knowledge on field theory methods are recommended.

Topics:

- Ising model and the functional renormalization group
- Kondo effect and the numerical renormalization group
- Nonlinear sigma models and Haldane's conjecture
- Disorder and Anderson localization
- Hertz model and quantum phase transitions
- Quantum Hall effects

Bibliografia:

- *A. Altland and B. Simons, "Condensed Matter Field Theory"*
- *[E. Fradkin](#), "Field Theories of Condensed Matter Physics"*
- *S. Sachdev, "[Quantum Phase Transitions](#)"*