# Magnetic moments and Transitions in Light Nuclei

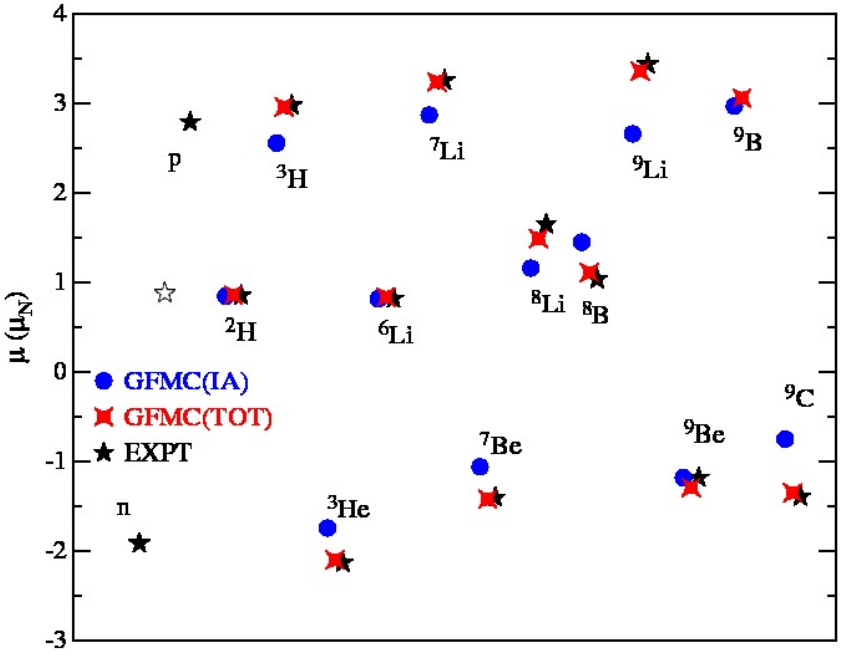
*Objectives:*

- Understand electromagnetic properties and transition rates of light nuclei
- Test realistic interactions and currents, including complete two-nucleon currents

*Impact:*

- Much improved description of all moments and electromagnetic transitions
- Increased confidence in our ability to explain electron and neutrino scattering from nuclei

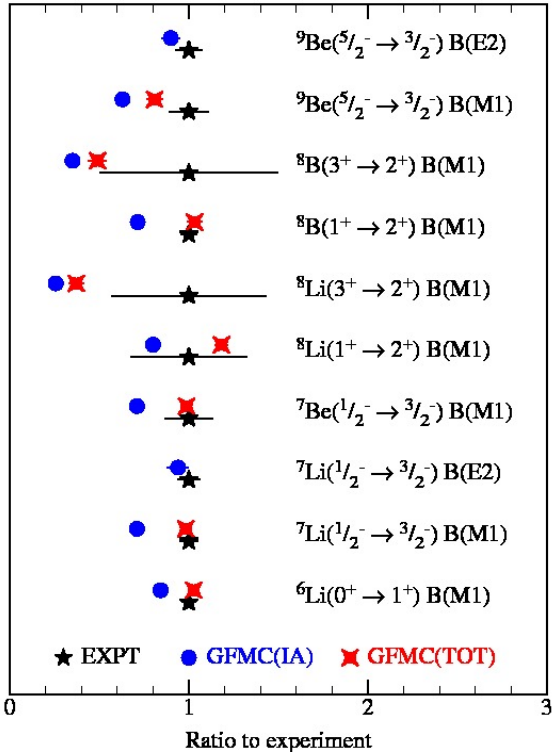
## Magnetic Moments




Green's Function Monte Carlo (GFMC) calculations of light nuclei give accurate energies but a lowest-order theory of one-body currents (blue) disagrees with experiment (black).

Including two-nucleon currents based on effective field theory (red) improves all predictions!

## Electromagnetic Transitions

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**Reference:** S. Pastore et al., Phys. Rev. C 87, 035503 (2013)

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