

# Exploring Hamiltonian structures by variational identities

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## Abstract:

Component-trace identities associated with matrix spectral problems will be presented and shown to be fundamental tools in establishing Hamiltonian structures of integrable couplings associated with non-semisimple Lie algebras. Applications of bi-trace identities will furnish Hamiltonian structures of dark equations and nonlinear integrable couplings.

## References:

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2. W. X. Ma, J. S. He and Z. Y. Qin, J. Math. Phys., 49, 033511 (2008).
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