

7.3: The Jacobi Identity

Another important identity satisfied by the Poisson brackets is the **Jacobi identity**

[Math Processing Error]

This can be proved by the incredibly tedious method of just working it out. A more thoughtful proof is presented by Landau, but we're not going through it here. Ironically, the Jacobi identity is a lot easier to prove in its quantum mechanical incarnation (where the bracket just signifies the commutator of two matrix operators, *[Math Processing Error]* Jacobi's identity plays an important role in general relativity.

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