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Monte Carlo simulations of an Ising bilayer with non-equivalent planes

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Highlights

- Ferrimagnetic 1/2-spin Ising bilayer is studied.
- The system is composed of two interacting non-equivalent planes.
- Only one of the planes presents quenched site dilution.
- Monte Carlo simulations and the multiple histogram reweighting method are used to obtain the magnetic and thermodynamic properties of the system.
- Compensation phenomenon is found and compensation temperature is discussed.
- Phase diagrams are obtained.

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