


# Environmental Science: Atmospheres

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Fundamental questions  
Elemental answers



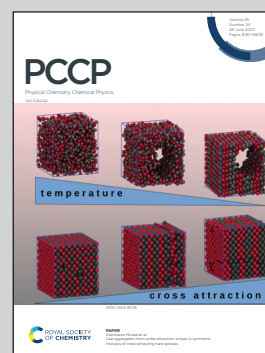


**Showcasing research from Professor Tao Cheng's laboratory, School of Chemistry and Chemical Engineering, Qilu University of Technology, Jinan, China.**

Electronic coupling and electron transfer in hydrogen-bonded mixed-valence compounds

The hydrogen-bonded mixed valence system, consisting of a donor–hydrogen bond–acceptor, offers an ideal platform for investigating thermally-induced electron transfer across this non-covalent unit. This perspective critically evaluates some studies focused on the qualitative and quantitative assessment of electronic coupling and thermal electron transfer across hydrogen bond interfaces. These summarized findings have the potential to contribute to a deeper understanding of the fundamental role played by hydrogen bonds in modulating electron transfer processes in biological systems.

**As featured in:**



See Tao Cheng *et al.*,  
*Phys. Chem. Chem. Phys.*,  
2023, **25**, 16201.