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## **Collective decoherence in extended systems: origins and some effects**

**Abstract:** When considering systems composed by several units, dissipation and decoherence can take very distinctive forms, occurring, for instance, independently in separate heat baths or collectively into a common bath. In this talk we show what determines the cross-over between common and separate baths discussing the role of bath spatial correlations, temperature and disorder. Some effects of collective dissipation on synchronization phenomena are also presented.