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What does it tell us when curves cross?

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In physics and chemistry it is often observed that the curves of a physical quantity $f(x,p)$ cross at one or more points, when plotted as a function of x for different values of the parameter p . Sometimes these crossing points are confined to a remarkably narrow region, or are even located at a single point, called “isosbestic point”. For example, crossing points are found in the curves of the heat capacity $C(T,X)$ of many correlated materials, with X as the pressure or the magnetic field, and of the Hubbard model, with X as the interaction U , but also in the Raman response $\chi''(\omega,T)$ and many other quantities. I will explain that crossing points provide valuable information about the system in which they occur.

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