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Consistency of value assignment by means of quantum correlations

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In Quantum Physics very rarely it happens that the value of an observable is obtained by a 'direct' measurement. In fact, in almost all cases, such a value is assigned by measuring another observable characterized by perfect correlation with the observable of interest, and then assigning it the value according to the correlation. The assignment of the value of the spin observable to a silver atom through a Stern and Gerlach apparatus is an effective example, where the value assignment, inferred from the exit localization (up or down), is often identified with an authentic measurement of the spin.
Given the importance of the concept of measurements and of the role they play in the investigation about the foundational problems of Quantum Theory, such as the measurement problem, contextuality, locality, the tasks of precisely establishing the conceptual and formal status of these value assignments (we shall call 'evaluations') and of establishing how they are related to
authentic measurement cannot be overlloked by Quantum Theory.
In this talk, once demonstrated that evaluations cannot be identified with measurements, we single out the conditions under which an evaluation is a perfect simulation of the corresponding measurement.
However, evaluations are allowed also when these conditions are notsatisfied. Then we identify the domains of circumstances, i.e. determined domains of observables, where assignment by evaluation is consistent with measurement.

Presenter: NISTICO', Giuseppe Antonio (CS)