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Timeless Records Approach to the Problem of Time in Quantum Gravity

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The problem of time is a major conceptual stumbling block in attempting to quantize gravity. For, time is conceptually different in general relativity and in conventional quantum theory, which are the two structures that one would seek to combine in forming a theory of quantum gravity. I consider the timeless records approach to this in this seminar. Records are localized, information-containing subconfigurations of a single instant. Records theory is the study of these and of how science (or history) is to be abstracted from correlations between them. I critically evaluate motivations for this approach that have previously appeared in the literature. I provide a ground-level structure for records theory and discuss what kind of further tools are needed, illustrated in some classical toy models: ordinary mechanics, the 2-d dynamics of pure shapes and (perturbations about) minisuperspace.

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