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Dynamics near Space-like Singularities and Quantum Bounces[1]

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The Belinkskii, Khalatnikov and Lifshitz conjecture says that as one approaches space-like singularities in general relativity, "time derivatives dominate over spatial derivatives" so that the dynamics at any spatial point is well captured by an ordinary differential equation. This talk will review results from a formulation of this conjecture motivated by Hamiltonian "connection dynamics" both in classical general relativity and loop quantum cosmology.

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