

# **What occurs in the fragile-to-strong liquid transition regime?**

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## **Abstract:**

The slow dynamics of glass-forming liquids is a complex subject of the condensed matter science. But the fragile-to-strong transition, which was observed not long ago [Ito, et al, Nature 1999], makes this subject even more complex since it is extremely challenging to directly probe the structural, topological and thermodynamic changes causing this transition. The microscopic theory for describing the transition has not been fully established. In this presentation, we describe our current understanding of the fragile-to-strong transition in some glass-forming liquids based on our two published papers and recent unpublished results. At the same time we point out major challenges and perspectives for clarifying both the origin and consequences of the fragile-to-strong liquid transition.