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<b>Arbeitsgruppe / Group</b>	Glass
<b>Betreuer/ Supervisor</b>	Prof. Dr. Dominique de Ligny
<b>Kontakt / Contact</b>	dominique.de.ligny@fau.de
<b>Sprache / Language</b>	English
<b>Art / Type</b>	Bachelorarbeit
<b>Dauer / Duration</b>	BA-Arbeit 360 h in 5 Monaten

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<b>Thema / Topic</b>	<b>Making ultra-strong glasses</b>
<b>Einleitung / Introduction</b>	Brittleness is the main weak point of glass materials. Playing on the glass composition it can be expected to win both on strength and scratch resistance. For that a new field of glass composition will be investigated. It will be attempted to increase Al coordination number by working on the redox conditions of the glass process.
<b>Durchzuführende Arbeiten/Deliverables</b>	Different glasses in the aluminosilicates family will be synthesis. Sn will be introduced in an oxidized stat, SnO <sub>2</sub> , at different concentration. The solubility limit of Sn will be determined. The glass will be then reduced around T <sub>g</sub> . Evolution of the mechanical properties will be estimated from Brillouin spectrometry. Samples will be characterized using thermal analysis and Raman spectroscopy.
<b>Literatur / Literature</b>	Cochain B., D.R. Neuville, D. de Ligny, M. Malki, D. Testemale, O. Pinet, P. Richet (2013) Dynamics of iron-bearing borosilicate melts: Effects of melt structure and composition on viscosity, electrical conductivity and kinetics of redox reactions. Journal of Non-Crystalline Solids, 373-374, 18-27.
<b>Beginn / Start</b>	March-April 2016

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