

**Cyclic damage processes in high-performance concrete in an  
experimental-virtual-lab  
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This minisymposium is dedicated to discuss recent advances on fracture and failure of high performance and ultra high performance concrete under cyclic loading within an experimental-virtual-lab.

The prime focus on this topic are computational approaches, but experimental contributions are also welcome.

Topics of interest for this minisymposium are:

- Mesoscale analysis of damage and fracture in high performance and ultra high performance concrete
- Fiber reinforcements in concrete, delamination and rupture
- Influence of steel fibers on degradation processes in concrete
- Effects of water, humidity and temperature on the degradation of concrete
- Fatigue simulations of high performance concrete
- Spatial and temporal multi-scale techniques applied to concrete