

Elektrotechnik-Elektronik-Informationstechnik

EEI KOLLOQUIUM

Coupled Multiphysical Problems in Electrical Engineering

Mittwoch, der 15.02.2017, 09⁰⁵ Uhr

Cauerstraße 9, Raum 5.14

Nowadays, in many academic and industrial classically electromagnetic simulation scenarios multiphysical phenomena are considered. Often, a monolithic approach, i.e., the solution of all problems within one software, is cumbersome or even impossible because models are not available or incompatible algorithms and software packages are involved. Thus simulation engineers need to co-simulate problems in an stable and efficient way. For example in time-dependent problems where different scales are present, waveform relaxation schemes are a viable approach. However, the independent treatment introduces splitting errors, which should be controlled by iterative procedures that in turn can cause computational overhead. The talk presents a co-simulation framework and several example from practice.