

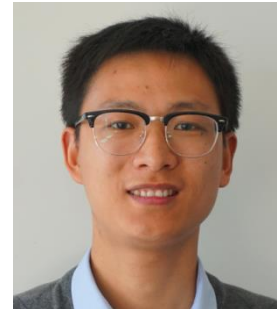
## EMC Professional Talk

### Dr. Cheng Yang

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### Nonlinear Shielding: A New Paradigm in EMI Control

Modern electronic systems with high speed signal processing and high frequency wireless communication suffer from susceptibility to high intensity radiation fields (HIRFs) in general. The electromagnetic interferences (EMI), rising from HIRFs, can result in software failures or even hardware damages. Recently, nonlinear shielding, realized by using lumped element arrays or grids, have been receiving increasing attention due to its all-passive, self-activated and reconfigurable performance.

In this EMC professional talk, an overview of worldwide nonlinear designs using diode grids will be given at first. Then the concept, principle, design and optimization of nonlinear shielding will be explained and discussed. In order to deal with massive nonlinear loads on complex 3D structures, efficient simulation tools and general design guidelines will be presented with validations of benchmark examples. Finally, new possibilities of nonlinear shielding will be demonstrated with respect to its flexible field-intensity dependencies, which becomes an emerging research area in EMC.

**23.09.2021, 17:00 Uhr**

**Zoom: <https://ovgu.zoom.us/j/92003900283>**

**Meeting-ID: 920 0390 0283 Passwort: 008922**

The slides will be provided on demand after the meeting:

<http://sites.ieee.org/germany-emc/contact-us/>

#### About the speaker:

**Cheng Yang** received his B.S. degree in electronic science and technology from Wuhan University (WHU), Wuhan, China, in 2009, the M.S. degree and the Ph.D. Degree with electromagnetic field and microwave technology from the National University of Defense Technology (NUDT), Changsha, China, in 2012 and 2016. From 2013 to 2015, he was funded by the Chinese Scholarship Council (CSC) as a joint-PhD student at TUHH. From 2017 to 2019, he was a Faculty Member of the State Key Laboratory of Millimeter Wave at Southeast University (SEU), Nanjing, China. Since April 2019, he has been a senior engineer of the Institut für Theoretische Elektrotechnik, Hamburg University of Technology (TUHH), Hamburg, Germany. His current research interests include computational electromagnetics, microwave measurement techniques, electromagnetic compatibility and biology electromagnetics.

#### Organisation:

Dr.-Ing. Miroslav Kotzev, Rosenberger Hochfrequenztechnik GmbH  
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