



Adham Naji

Staff Scientist, SLAC National Accelerator Laboratory

Bio

BIO

Adham Naji is a staff scientist at Stanford's Linear Accelerator Center (SLAC), Stanford University. His research interests are in mathematical physics and its application to problems in electromagnetic field theory and radiofrequency (RF) design. This includes problems in wave theory, geometric perturbation of RF resonators, field-particle dynamics, beam physics, RF/THz wave guiding and coherent radiation. He is particularly interested in mathematical analysis, geometry and theoretical techniques that help illuminate our understanding of various wave phenomena and interactions, whether in nature or in the laboratory.

Adham received his PhD in 2010 from the University of Bristol, UK, with the Outstanding Contribution Award (MobileVCE), for his work on the analysis and design of reconfigurable planar resonators using geometrical perturbation techniques. He served in research and faculty positions between 2011 and 2018, with focus on teaching and research in electromagnetic wave theory, wave propagation and RF systems. In 2019, he joined the Hansen physics laboratory (HEPL) and Particle Physics and Astrophysics Department at Stanford University as a research scholar, and in 2021 Stanford's Linear Accelerator Center (SLAC) as staff scientist. He served as an adjunct professor (part-time) with the Physics Department at Stanford during the winter teaching quarter of 2023. Adham is also an honorary visiting fellow at the University of Bristol, UK, and a senior member of IEEE (elected 2018).

Recent articles:

Field analysis for a highly overmoded iris line with application to THz radiation transport

PHYSICAL REVIEW ACCELERATORS AND BEAMS

Naji, A., Stupakov, G., Huang, Z., Bane, K.; 2022; 25 (4)

Variational Self-Consistent Theory for Beam-Loaded Cavities

PHYSICAL REVIEW APPLIED

Naji, A., Tantawi, S.; 2021; 16 (4)

Teaching

COURSES

2022-23

- Mechanics: PHYSICS 41 (Win)