15th International EML Symposium

Royal Military Academy
Brussels, Belgium
17 – 20 May, 2010

Symposium Information

Abstracts
15th International EML Symposium Committees

Symposium Chairs
Dr. Scott Fish, Institute for Advanced Technology
Dr. Johan Gallant, Royal Military Academy

International EML Symposium Committee
Dr. John P. Barber
Mr. David P. Bauer
Dr. Harry D. Fair
Dr. Thaddeus F. Gora
Mr. David Haugh
Dr. Keith Jamison
Dr. Richard Marshall
Dr. Ian R. McNab
Dr. Jerald V. Parker
Dr. Philip G. Rutberg
Dr. Gennady A. Shvetsov
Dr. Emil Spahn
Dr. Francis Stefani
Mr. Alexander Zielinski

International Liaison
Dr. Jun Li

Organizing Committee
At the Institute for Advanced Technology
Ms. Janet Monaco – administration
Ms. Michelle Ramsey – administration
Ms. Cheryl Rae – website

At the Royal Military Academy
Mr. André Chabotier – catering
Mr. Jan Van Roey – technical exhibition
Dr. Alexandre Papy – welcome package, ICT
Mr. Cyril Robbe – poster sessions
Mr. Thomas Winnelinckx – poster sessions
Mr. Nicolas Vekony – companion program
Dr. Thierry Vandeveld – companion program
Ms. Mieke Coffo – general support
Mr. Marc Maldague – general support
Mr. Ndompetelo Nsiampa – general support
Mr. Mikael Petit – general support
Mr. Eric Giaux – administration
Numerical Investigation of the Effect of a Longitudinally Layered Armature on Coilgun Performance

Serkan Aksoy, Abdulkadir Balıkçı, Zivan Zabar, Senior Member IEEE,
and Leo Birenbaum, Senior Member IEEE

The effect of a longitudinally layered armature on coilgun performance is investigated by using a two dimensional axially symmetric cylindrical Quasi-Static Finite Difference Time Domain method. The singularity extraction and Mur type absorbing boundary condition are adopted with the numerical solution. The results obtained show that the best coilgun performance in the sense of the induced propulsive armature force is observed when the conductivity of the outer layer of the armature is smaller than that of the inner layer. This phenomenon can be explained in terms of impedance matching based on skin depth evaluation.