***http://hpff.rice.edu/applications/index.htm***

The curve-fitting algorithm. is based on a modified nonparametric regression method, which forms the core contribution of this work. This method is far more effective compared to standard estimation techniques, such as the maximum likelihood estimation method, and can take into account the discontinuities present in the curve. Next, the theoretical results of this 1D curve estimation technique ate extended significantly for an object modeling problem. The input to the algorithm is a monocular image sequence of an object undergoing rigid motion

Primary open-phase faults on station auxiliary transformers (SATs) are characterized by the presence of voltage unbalance at the auxiliary equipment level that could lead to protective device tripping, increased motor acceleration times, overheating or failure to start critical safety loads, particularly in the nuclear power industry. The transformer primary to ground zero sequence impedance has a profound impact on the voltage balance on the secondary (equipment) level but its effects not been fully analyzed in the context of nuclear power plant operation. This study investigates the influence of zero sequence impedance to ground as seen from the transformer primary terminals during an open-phase condition on the performance of nuclear plant auxiliary equipment, in particular the effect on large motor starting and running performance

A sudden increasing power demand leads to manufacture of large number of oil immersed power transformers and other electrical power equipments. Power transformers are the most vital equipment in power system. Any failure in transformer leads to malfunction of whole power system. Unfortunately, the failure rate of these transformers is very high in India, 25% per annum, which is not favorable as compared to international units of 1-2 %. Failures happen due to internal reasons or operational hazardless. Transformer insulation deteriorates as the function of temperature, moisture and time. The core and winding losses, stray losses in tank and metal support structures are the principle sources of heat which cause oil and winding temperature rise. There are multiple reasons for overheating such as improper cooling, excessive eddy currents, bad joints, blocked radiators, overloading, improper earthing and harmonic contents in power supply. This leads to accelerated aging of oil and cellulosic solid insulation, which generate the gases within transformer and further leads to permanent failure. To prevent such failures, effective analysis and diagnosis needs to be investigated. The type of gases generated and amount of gas concentrations in oil efficiently evaluated using Dissolved Gas analysis (DGA). Various other electrical diagnostic tests like winding resistance test, short circuit impedance, oil analysis and sweep frequency response analysis (SFRA)

An equivalent-magnetic-currents active-admittance-based waveguide model, for the internal problem, and an equivalent-magnetic-currents Method-of-Moments (MoM) model, for the exterior problem, are employed for the synthesis and analysis steps. The entire procedure is carried out through a custom user-friendly PyQt graphical interface environment. The code is entirely modular, and allows for reuse of legacy FORTRAN/C++ codes. New features, such as different solving methods or design procedures, can be easily added to the same tool chain. The proposed tool has been successfully employed in the design of some of the latest Selex-ES fl at-array radar antennas.

**MOMIC**

MOMIC is a user-oriented method-of-moments PC program suitable for analyzing the electromagnetic behavior of arbitrarily shaped wire antennas and scatterers, modeled by piecewise linear segments, in free space. Capabilities of MOMIC include evaluations of the currents induced/excited on the wires, impedance/admittance parameters, near fields, and far-zone radiation and scattering patterns. With MOMIC one can analyze various antennas and scatterers composed of electrically thin straight and curved wires, and wire-grid models of conducting surfaces. The target platform for MOMIC executable is an 80486 (or Pentium) running under MS DOS in 32-bit protected mode.  
MOMIC is available on the web at: http://emlib.jpl.nasa.gov/EMLIB/MOMIC/  
main site: <http://victrix.iele.polsl.gliwice.pl/~akarw/momic/> in Poland

mirror site: <http://emlib.jpl.nasa.gov/EMLIB/MOMIC/> in USA  
The code is available from both these sites at no charge for non-commercial use.

http://emlib.jpl.nasa.gov/EMLIB/MOMIC/

Feb 16, 2012 · Hi **emlib**, Could you please send me a copy of **EMLIB** package (email: 2323663747@qq.com)? I can't link to the link now. Thanks

1. [Computational Electromagnetic Modeling Codes Available **on ...**](http://emclab.mst.edu/codes/)

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Computational Electromagnetic Modeling Codes Available on the Internet. Ansoft Codes - Student Version. ... mirror site: http://**emlib**.jpl.**nasa.gov**/**EMLIB**/MOMIC/ in USA

1. [Emlib.jpl.nasa.gov **| SiteGlimpse**](http://www.siteglimpse.com/emlib.jpl.nasa.gov)

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1. [**SAL- Numerical Analysis - Source Code Repositories -** EMLIB](http://www.sai.msu.su/sal/B/1/EMLIB.html)

www.sai.msu.su/sal/B/1/**EMLIB**.html

**EMLIB**. Library of computational ElectroMagnetic (EM) modeling codes. Most of the codes are written in Fortran. There are also many links to related software and archives.

1. [EMLIB **Introduction**](http://pe2bz.philpem.me.uk/Comm01/-%20-%20Ion-Photon-RF/-%20MagnetoTuluric/-%20EMLIB/intro.html)

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When you have files you wish to deposit on **EMLIB**, please send mail to emstaff@**emlib**.jpl.**nasa.gov** and we will set up a convenient method to tranfer your files.

**Development of Numerical Modeling Codes for Solving EMC Problems**

Numerical electromagnetic modeling tools play an important role in most of the Missouri S&T EMC Laboratory research projects. Numerical models (supported by measured data) can provide insight into a problem that cannot be obtained by measurements alone. The laboratory uses a number of commercial modeling codes for modeling simple, well-understood geometries. However, researchers also develop their own modeling codes when necessary.

There are three large numerical modeling codes that are under continuous development at Missouri S&T. One or more of these codes is applied to nearly every research project in the laboratory. The codes are named EMAP5, CEMPIE and APOGEE.

[EMAP5](http://emclab.mst.edu/emap/) is a 3D full-wave hybrid finite-element/moment-method code. It is used to model structures that include regions with a high level of complexity and regions with large resonant conductors (e.g. printed circuit boards with enclosures or cables). It is a frequency domain method. The finite element method and moment method parts can be employed independently if necessary.

CEMPIE is a tool for efficiently modeling printed circuit board power bus structures. It's function is similar to a 2D PEEC tool. It reduces the power bus to an equivalent N-port network that can be analyzed using a circuit simulator such as SPICE.

APOGEE is a 3D full-wave finite difference time domain (FDTD) code. It has been applied to everything from printed circuit board structures to entire systems. Subcellular algorithms have been developed that model thin wires and seams in enclosures.

EMAP (ElectroMagnetic Analysis Program) is a family of three-dimensional finite element modeling codes that can be used to analyze simple 3-dimensional geometries. The EMAP codes are relatively easy to learn to use and are distributed in source code form.

The EMAP codes are not intended to compete with commercial finite element modeling codes. They do not have a sophisticated mesh generator, graphical output, or unlimited technical support. Their primary strengths are ease-of-use, modest resource requirements, and accurate modeling of simple three-dimensional configurations over a wide range of frequencies.

EMAP1 employs a variational formulation described by Maile [1]. EMAP-2 employs the Galerkin finite element formulation described in papers by Paulsen and Lynch [2,3]. Both EMAP1 and EMAP2 are scalar (node-based) codes. EMAP1 is a good choice of codes for instructors that wish to illustrate "spurious modes", which are often a problem with scalar full-wave finite element codes [4]. The formulation applied in EMAP2 does not exhibit spurious modes [5]. EMAP3 is a vector (edge element) code. Vector codes are generally not affected by spurious modes and have other inherent advantages. All of the EMAP codes are written in the C programming language and can be compiled and run on PCs, workstations, or mainframes.

EMAP4 is an improved version of EMAP3. It is more efficient and can model lossy materials.

EMAP5 is a hybrid FEM/MOM code [6, 7].

The EMAP1, EMAP2, and EMAP3 codes are no longer supported, but they may be useful to educators or researchers who are looking for basic scalar or non-complex-element vector FEM codes. These codes are briefly described on the web page at [http://emclab.mst.edu/emap1-3](http://emclab.mst.edu/emap1-3/).

The EMAP4 and EMAP5 codes are described on the web pages at [http://emclab.mst.edu/emap4](http://emclab.mst.edu/emap4/) and [http://emclab.mst.edu/emap5](http://emclab.mst.edu/emap5/) respectively.

Using the EMAP Codes

After downloading the EMAP source code, it is necessary to compile the program using a compiler appropriate for your own machine. On a unix machine a typical command to compile the source code "emap2.c" and create an executable file called "Emap2" might be: cc -o Emap2 emap2.c –lm

Executable files for certain Sun, HP, and IBM workstations are located in the /exe subdirectory. To run the EMAP code, simply type the name of the executable file followed by the name of the file containing the input. For example:

Emap2 myinput.file

The output will be written to whatever file or files were specified by the output statements in the input file.

EMAP Input and Output

The EMAP codes analyze structures defined on a rectangular, 3D grid. They all read input stored in the same format, so for example, an input file created for EMAP2 can also be analyzed without modification by EMAP1 and EMAP3. The [Standard Input File](http://emclab.mst.edu/sif/) (SIF) files read by the EMAP codes are relatively easy to generate. In most cases, a simple text editor is all that is needed to create a new input file.

Output from the EMAP codes is in one of two forms. The **default** output format is simply a listing of each of the elements and their corresponding electric field values. There is also an **efield\_output** keyword that can be used in the input file to specify output files that list the x,y, and z components of the electric field at various points in the configuration.

References

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[7]Y. Ji and T. Hubing, "EMAP5: A 3D Hybrid FEM/MOM Code," Journal of the Applied Computational Electromagnetics Society, vol. 15, no. 1, March 2000, pp. 1-12.

http://raylcross.net/asap/index.html, for software free

The document you requested emclab.mst.edu/documents/emap3.c is not available. Missouri S&T's site is constantly being updated. If you think you may have found a broken link, please contact [webmaster@mst.edu](mailto:webmaster@mst.edu). It is important that you include the URL of the page that you were trying to access and the location that the page was linked from so that appropriate action can be taken.

Meanwhile, for additional help, please try the following:

1. Check the punctuation and capitalization of the URL that you typed -- if you manually typed the address you may have made a mistake.
2. Go to the [Missouri S&T's Campus Gateway](http://www.mst.edu/) for general university information.
3. If you need help finding information on Missouri S&T's web site, you may wish to refer to Missouri S&T's [Search Engine](http://search.mst.edu/) or [Online Campus Directory](http://directory.mst.edu/).

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