
Subject: spectral estimation e.g., MEM, MUSIC
Posted by [Jack Harlan](#) on Wed, 14 Jan 1998 08:00:00 GMT
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I've checked all the large archives of IDL routines, but haven't been able to find any existing IDL ports of various modern spectral estimation techniques aka MSATs. These generally include maximum entropy methods (such as Burg's algorithm), MUSIC algorithms, etc. If no one else has done this, I'll probably convert some old Fortran code myself.
But, if anyone knows of existing IDL code, I'd appreciate hearing about it.

thanks
jack

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Subject: Re: spectral estimation e.g., MEM, MUSIC
Posted by [Jeff Kommers](#) on Thu, 15 Jan 1998 08:00:00 GMT
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There is a text by S. Lawrence Marple Jr. called "Digital Spectral Analysis with Applications". It comes with some Fortran codes that implement the various spectral analysis techniques, including Burg's algorithm and MUSIC.

I have written a set of IDL and C wrappers for these Fortran codes so that I can call them from IDL using `call_external()`. If you are interested, post or send me e-mail.

I must warn that using the Fortran codes on different platforms produced very different results using the test data supplied by Marple. It appears to be a dependence on floating point implementation: I got different results using a VAX, Sun (single precision), and Sun (double precision). The spectra are qualitatively similar, but the actual numbers differ by as much as 10 percent using the modified covariance estimator (MODCOVAR). (!)

Jeff
