Jeng-Tzong Chen

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主旨: Re: Equivalence between Trefftz method and MFS was proved in the attached paper you may have interest

Dear Professor Chen,

thank you for sending me your interesting paper.

It nicely describes how the MFS, when done on concentric circles,
and if the series expansions of the log terms are truncated,
is closely connected to the Trefftz method
when the latter is using harmonic polynomials
in polar coordinates.

I would not say that there is "Equivalence between... "
these methods, because they are not really
equivalent in all cases. But, of course, the connection is
very close, as your paper and my attached preprint show.

In my presentation, the actual domain boundary
can be arbitrary, and I only argue that source points
on far-away circles yield a trial space that (in the limit)
is a space of harmonic polynomials.

Also, in my case, I would not talk of "Equivalence...".

A more exact statement of what I do
in my paper is:

If the MFS uses a fixed number N of sources on a circle
on a large radius R, then the trial space converges
for R to infinity to a space of harmonic polynomials,
provided that the source points stay at fixed angles
i.e. they move out radially with R to infinity.

I do not truncate anything for this argument,
but I look at the limit for R to infinity.

Anyway, the two papers nicely complement each other,
looking at the close connection between
MFS and Trefftz from two different viewpoints.

With best wishes,

R. Schaback.

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