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Subject: still trouble with Geane

Posted by [Anonymous Poster](#) on Sat, 11 Apr 2009 14:49:44 GMT

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Hi Geane experts,

I still hit numerical errors in Geane. There could be more, but here is a list for the moment which trigger floating point exceptions:

- 1) erpremc/trscsd.F line 148
- 2) erpremc/trsdsc.F line 76
- 3) erpremc/trsdsc.F line 138

We need to figure out a way how to avoid these. I want to point out that this is not something that just happens in here at TUM. It will happen to everybody who will use Geane with tracks of the same geometry we tested in the last weeks.

I solved these cases locally at TUM in the following way:

For cases 1) and 3) I check whether  $ABS(S(J)).GT.1E30$  and then I set  $IERR=1$  and RETURN to ertrak. In ertrak I check for  $IERR.NE.0$  and I set  $x2(1)=-1.E30$  and I jump to the end with GOTO 99.

For case number 2) I check whether the argument for the ASIN call in line 76 is  $ABS(TN(3)).GT.1$  and I abort in the same fashion.

In FairGeanePro I check for  $x2[0]<-1.E29$  and I return kFALSE from all Propagates which call Ertrak.

This is not an elegant solution. However it is one I could do without changing the interface.

This has to be fixed in our global copy of geant3. Since the ertrak routine, does not have an error flag for returning, I do not know what the best solution is.

Please discuss this with me here on the forum and it would be great if you could send fixes to our group, because we have set up a lot of code for extensive testing.

This is one of the last steps we need to go for having a stable tracking.

Lia, could you please also communicate this message to Profs. Rotondi and Fontana in case they are not on the forum?

Cheers, Christian