Subject: IDL's BESELJ returns NAN for small argument and large order
Posted by David Ruffner on Tue, 18 Mar 2014 14:55:16 GMT

Hi all,
 I found what I think is a bug in IDL's BESELJ function when there is small argument and large order. For instance,

IDL> print,beselj(0.1d,103.d)
        NaN
% Program caused arithmetic error: Floating underflow.

I think the problem is that the number is too small for IDL to handle because if I do a smaller order then the result is a very small number,

IDL> print,beselj(0.1d,102.d)
  2.0511844e-295
% Program caused arithmetic error: Floating underflow.

Shouldn't IDL just return zero in this case? Any thoughts would be helpful.

Thanks,
David