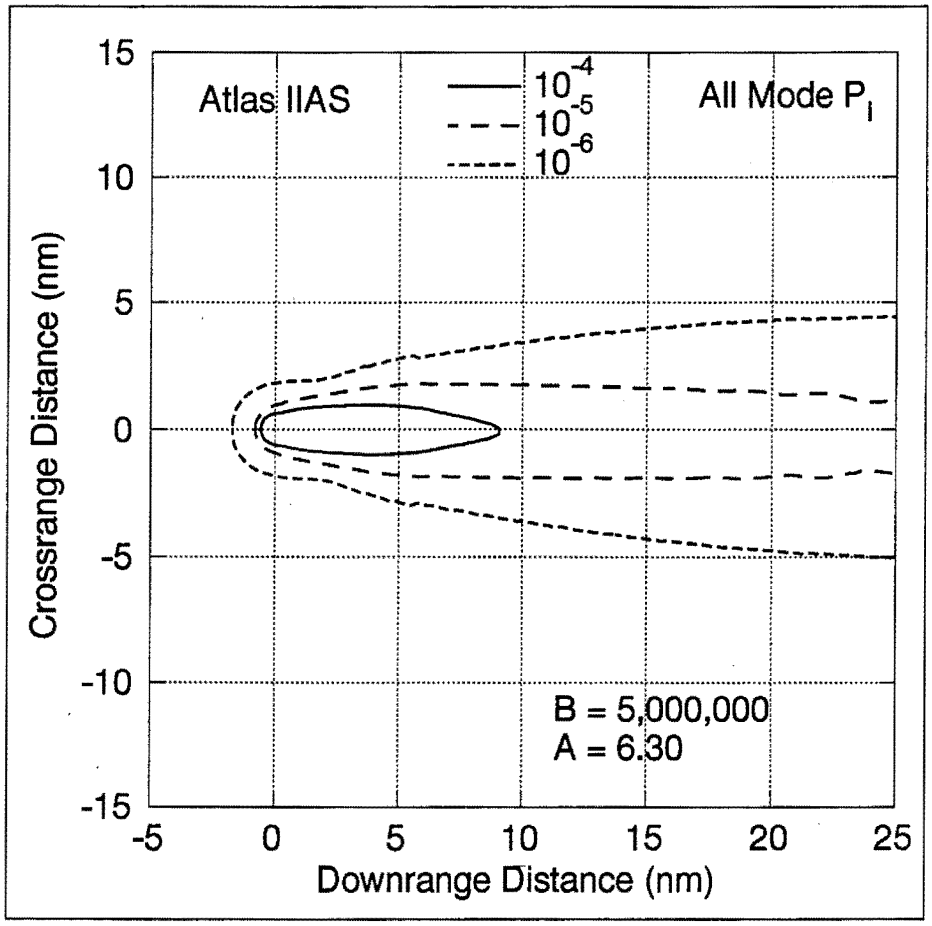

Figure 21. Atlas IIAS All-Mode Ship-Hit Contours with A = 6.30

6.2.4 Range Distributions of Theoretical and Simulated Impacts

Earlier discussions had to do with how well the angular part of the Mode-5 impact density function could be made to agree with angular data derived from simulated random-attitude turns. A similar procedure was used to test agreement between the range part of the Mode-5 impact density function and the simulated data. For this purpose, beginning at 15 seconds random-attitude turns were made at 2-second intervals out to 279 seconds, assuming no breakup and breakup $q\alpha$'s of 5,000 and 20,000 deg-lb/ft^2. At each time, 2,000 trajectories and impact points were computed, giving a total sample of 266,000 for each breakup condition. For each impact point, the range from the pad was computed, and the total number of impacts calculated in 10-mile range intervals out to 350 miles. Impacts beyond this range were placed in a single range category. The percentage of impacts in each range interval was then computed and plotted as shown in Figure 22.