

Figure 24 shows the percentages of malfunction-turn impacts in 5° sectors for no breakup and for breakup  $q\alpha$ 's of 20,000, 10,000, and 5,000 deg-lb/ft<sup>2</sup>. For  $B = 1,000$ , theoretical Mode-5 impacts are also plotted using best-fit values of  $A$ . This value of  $B$  was chosen since it is currently used by RTI in making launch-area risk studies for the 45th Space Wing. In the sectors from  $\pm 80^\circ$  to  $\pm 180^\circ$ , where most of the population centers are located, fairly good data fits were possible for all breakup  $q\alpha$ 's except 5,000 deg-lb/ft<sup>2</sup>. No value of  $A$  could be found to produce a good fit with  $B = 1,000$ . The bottom plot in Figure 25 shows that an excellent fit between malfunction-turn and theoretical data is possible for  $q\alpha = 5,000$  deg-lb/ft<sup>2</sup> if a different choice of  $B$  is made.

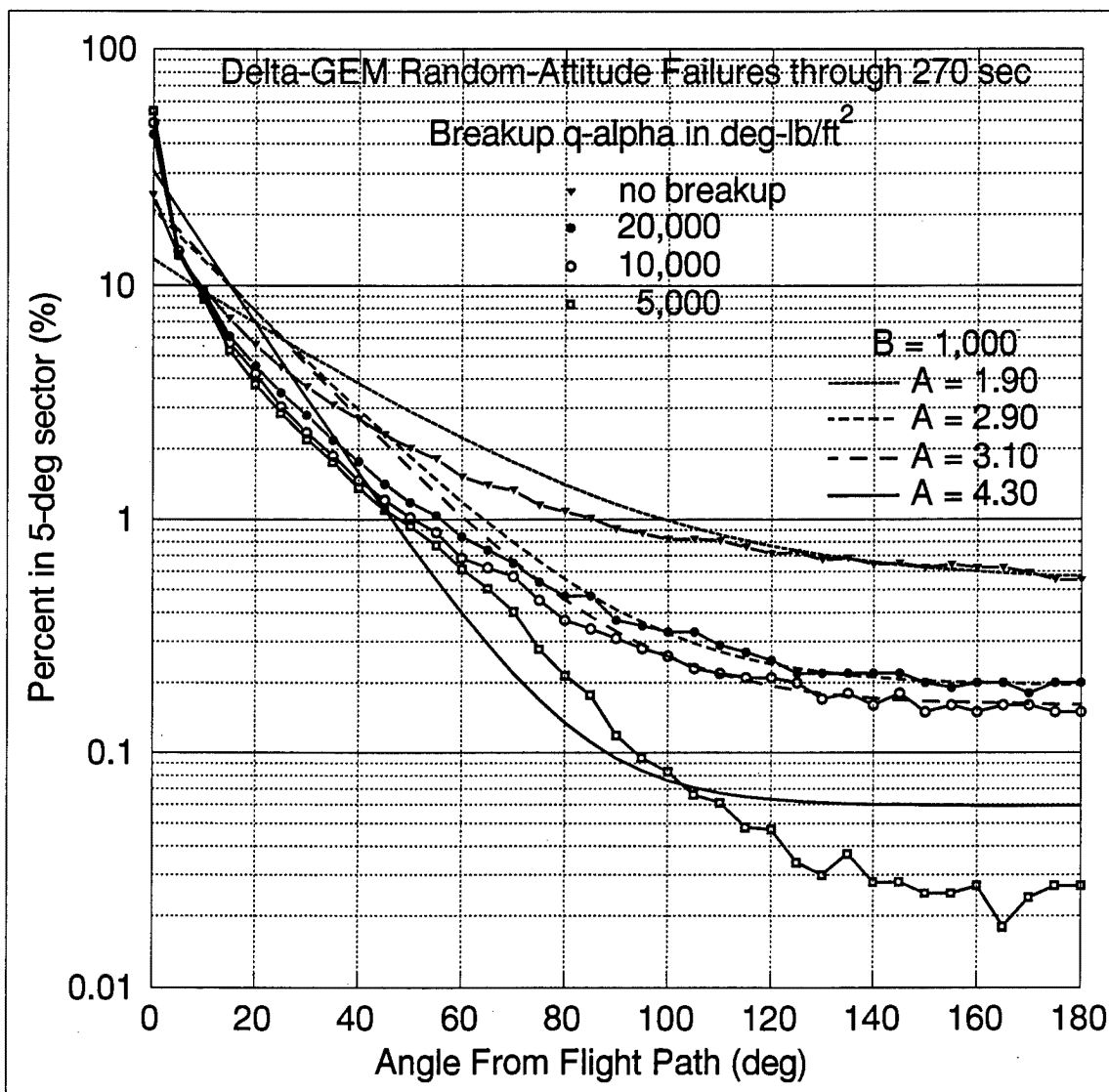


Figure 24. Delta-GEM Simulation Results with  $B = 1,000$