**Global scintillation occurrence calculated by the F3CGS4**

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**Abstract**

A large amount of 1,441,527 F3/C RO S4 profiles sounded during 2007-2014 are used to update the F3CGS4 model calculating the probability of L-band S4 scintillation on the ground. This mega data is employed to calculate the median of converted ground-based S4 and the occurrence under various thresholds, and further find the conversion factor in various local times, seasons, and latitudes. The factor allows us to instantly calculate the S4 scintillation occurrence. Good agreements between our model simulations and previous observations indicate that the F3CGS4 can be used to calculate ground-based S4 occurrence.