Model of the spume sea spray generation

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A model of the spume spray generation function (SGF) is suggested. Spume droplets are produced by the wind tearing off breaking crests of the equilibrium range wind waves. Being injected in the form of a jet, droplets are pulverized over size with a distribution proportional to the radius in power 2. Breaking of the equilibrium range wind waves takes place on the crests of dominant wind waves, therefore spume droplets are embedded into the air at the altitude of the dominant wave crest. The total SGF is proportional to the wind speed in power 4, while the spectrum of the SGF depends stronger on the wind speed, with the wind exponent of about 7. A reasonable agreement with the empirical SGFs is found. The model of the SGF is designed for the study of the atmospheric boundary layer at high winds.