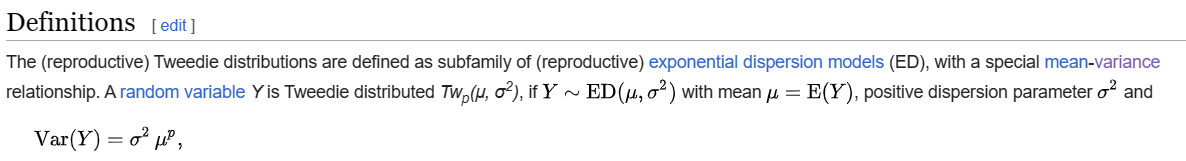
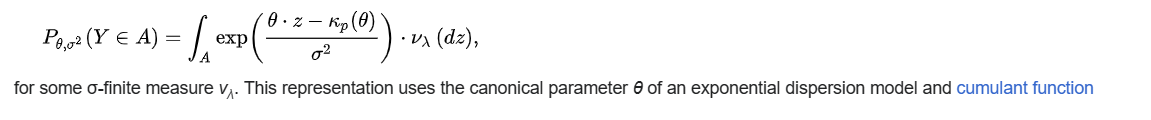
Tweedie distribution

Def

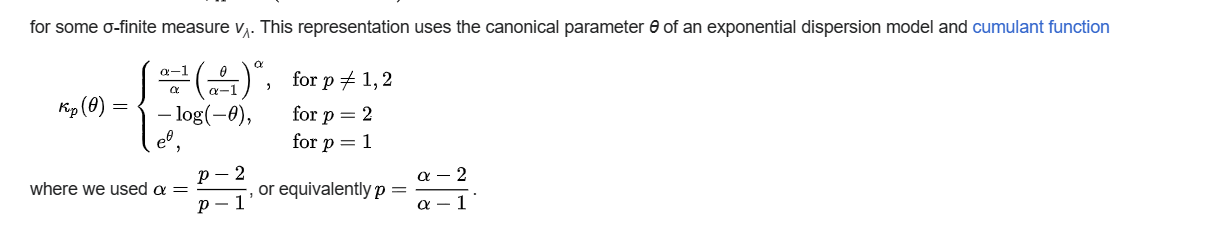


=

PDF



CDF



Property

Additive exponential dispersion models

If is reproductive,

then

=

where =

is in additive form for Tweedle

Suppose

with fixed and various are members of the family of distribution with same ,

and be independent random variables,

then random variable of additive model is the sum of each independent random variables

=

is also an independent random variable.

Reproductive exponential dispersion models

=

where

=

Given:

Weighting factor

and independent random variables

Suppose:

==

Then:

A weighted average of the variables get:

The Tweedie exponential dispersion models are both additive and reproductive; we thus have the duality transformation.



Ref

[Tweedie distribution - Wikipedia](https://en.wikipedia.org/wiki/Tweedie_distribution)