

Function to create gamma variate function

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% Alternative form of the gamma-variate function.
% Taken from "A simplified formulation of the gamma variate function"
% Madsen 1992
% alter_gvf(t,t0,a,ymax,tmax) returns the function
%  $f(t') = y(t') = y_{max} * t'^a * \exp(a(1-t'))$ 

% Inputs:
% t      : time vector
% t0     : delay time
% a      : shape of the function (onset and decay shape)
% ymax   : maximum value of function
% tmax   : time at which maximum value occurs

% Output:
% f:      : gamma-variate values
function f = alter_gvf(t,t0,a,ymax,tmax)

% new time vector starting at t0 and scaled
t2 = (t-t0)/(tmax-t0);

f = ymax .* t2.^a .* exp(a.*(1-t2));
f(t2<0) = 0;

end
```