
```

function [h,V,c, Iu, Iv] = semivariogram(x,y)
% simple vairogram function for equally spaced data
% Input
% x = distance vector
% y = measurement vecotr
% Output;
% h = lag distance
% y=semivariagram result
% SNTX: [h,y] = semivariogram(x,y)
dx = mean(diff(x)); %average spacing
extent = (max(x) - min(x)); % extent
N = length(x); %number of data points
h = dx:dx:extent/2 ; % lags --> only calculating to half the extent to avoid
    bias
npairs = zeros(length(h), 1); %preallocate npairs
V = zeros(length(h),1); %preallocate semivariance
muz = mean(y);
for n = 1:length(h) %loop over lags
    npairs(n) = N-n; % number of pairs at each lag
    Iu = 1:(N-n); % define the index of the head
    Iv = (n+1):N; % index to tails
    V(n) = 1./(2*npairs(n))*sum((y(Iu)-y(Iv)).^2); %semivariance
    c(n) = 1./(npairs(n)-1)*sum((y(Iu)-muz).*(y(Iv)-muz)); %covariance
end

```

~~Not enough input arguments.~~

~~Error in semivariogram (line 10)~~

~~dx = mean(diff(x)); %average spacing~~

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