Description and unit of different variables used in the analysis

variable	description	unit
h	water depth	m
ρ	water density	kg/m^3
F_x	horizontal force acting on vegetation per unit volume	$-$
N	Density of vegetation	m^{-2}
C_d	Drag coefficient	$-$
b_ν	Stem width	m
α	Vegetation height	m
$V = C_D \times b_\nu \times N$	Vegetation parameter	m^{-1}
H_{rms}	root mean square wave height	m
$H_s = 2\sqrt{2}H_{rms}$	significant wave height	m
$T = 2\pi/\sigma$	wave period	s
T_p	Peak Period	s
$\sigma = 2\pi/T$	Wave angular frequency	s^{-1}
u	horizontal velocity in the vegetation due to wave motion	m/s
u_{max}	maximum horizontal velocity of the orbital motion of waves	m/s
a	Wave amplitude which is half of significant wave height	m
L	wave length	m
$k = 2\pi/L$	wave number	m^{-1}
$c_g = \frac{L}{T}n$	group velocity	m/s
$n = \frac{1}{2}\left(1 + \frac{2kh}{\sinh(kh)}\right)$	n-number	$-$