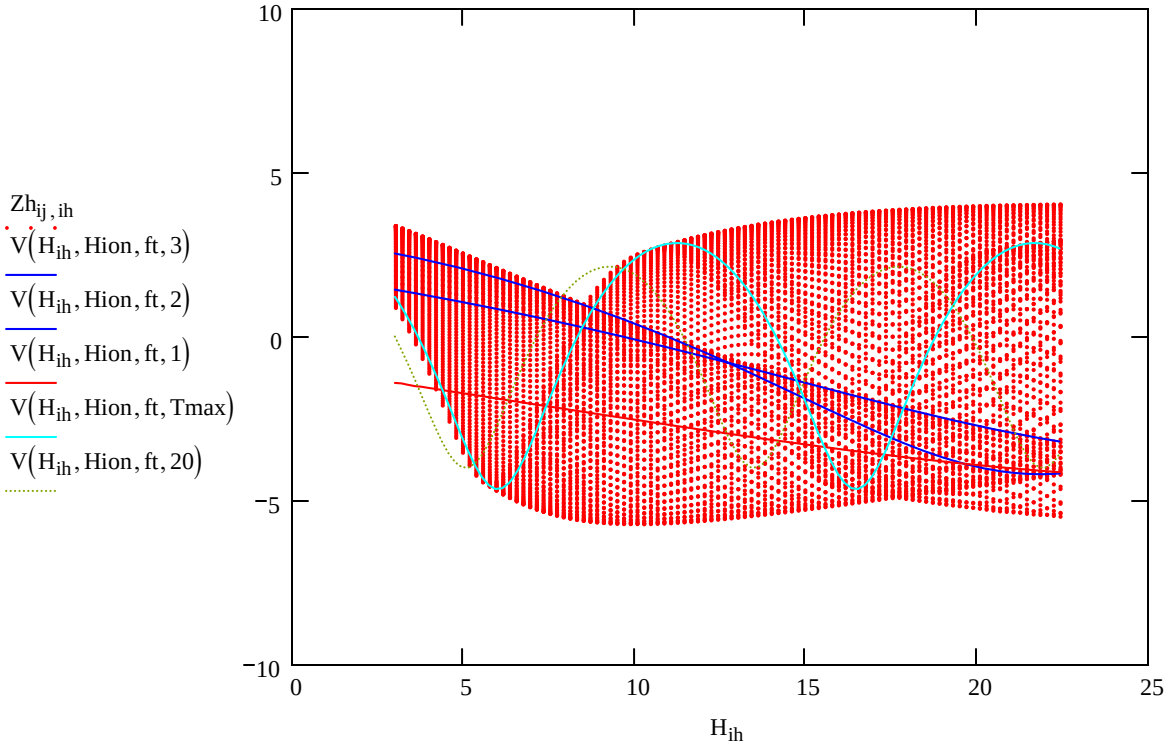
$Tmin := 2$

Vertical Pol Sea water

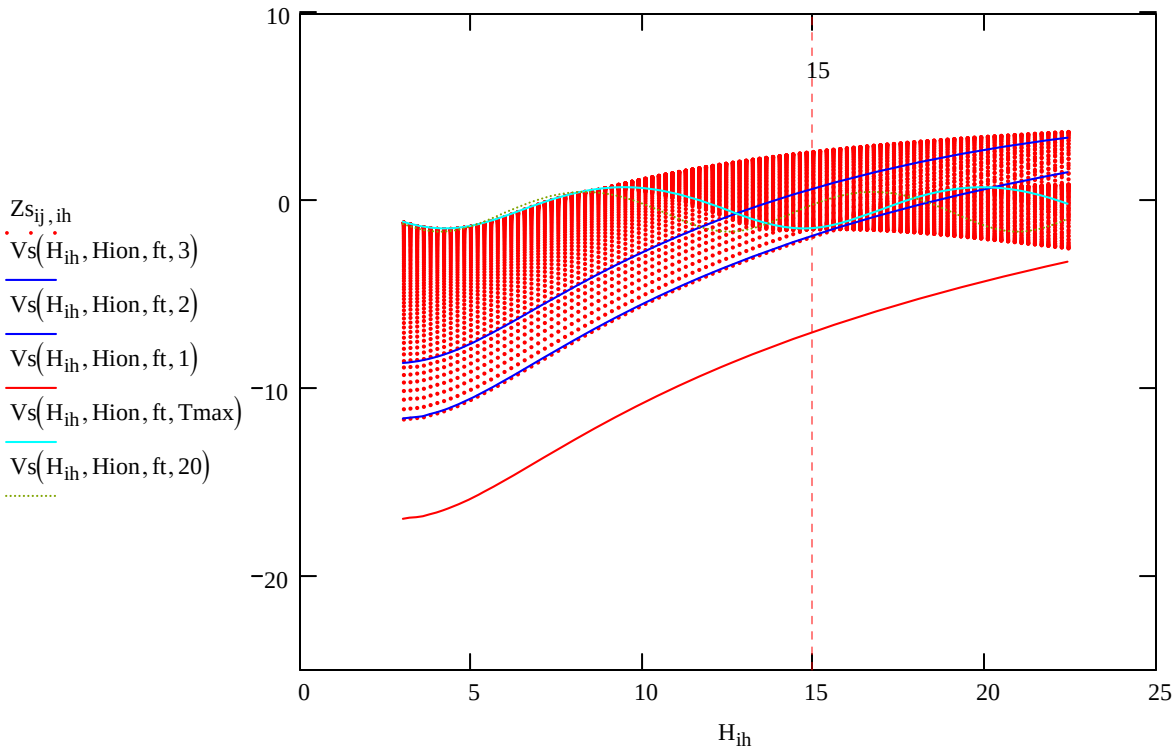
$ft := 52$

$Tmax := 16$ $\quad to_{ij} := Tmin + \frac{ij}{IH - 1} \cdot (Tmax - 1)$ $\quad Zh_{ij,ih} := V(H_{ih}, Hion, ft, to_{ij})$



Vertical Pol Earth

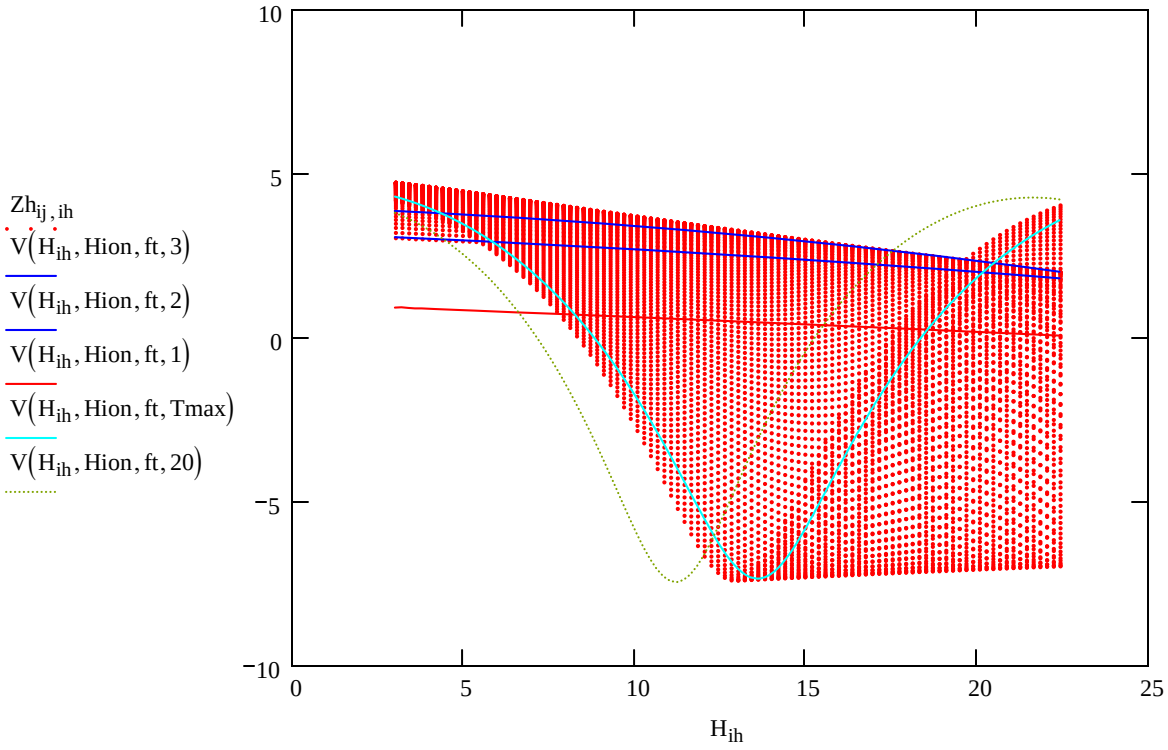
$ft = 52$ $\quad Zs_{ij,ih} := Vs(H_{ih}, Hion, ft, to_{ij})$



Vertical Pol Sea water

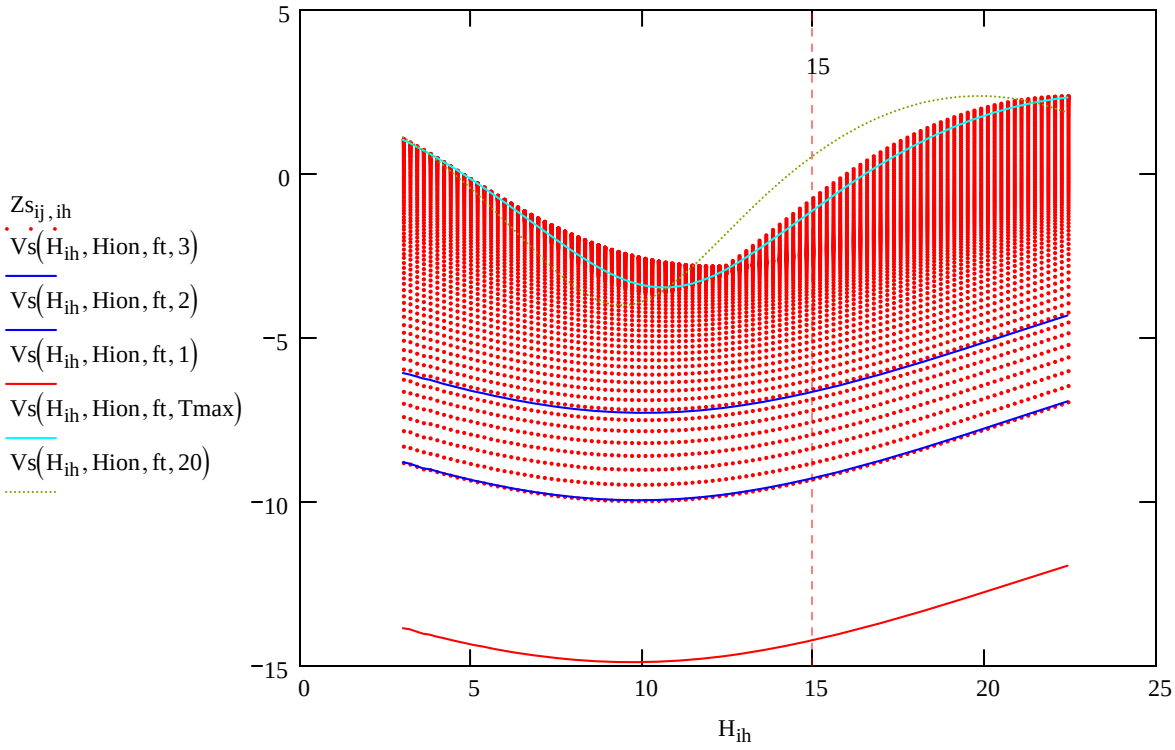
$Tmin := 2$

$ft := 21$ $\quad Tmax := 16$ $\quad to_{ij} := Tmin + \frac{ij}{IH - 1} \cdot (Tmax - 1)$ $\quad Zh_{ij,ih} := V(H_{ih}, Hion, ft, to_{ij})$



Vertical Pol Earth

$ft = 21$ $\quad Zs_{ij,ih} := Vs(H_{ih}, Hion, ft, to_{ij})$

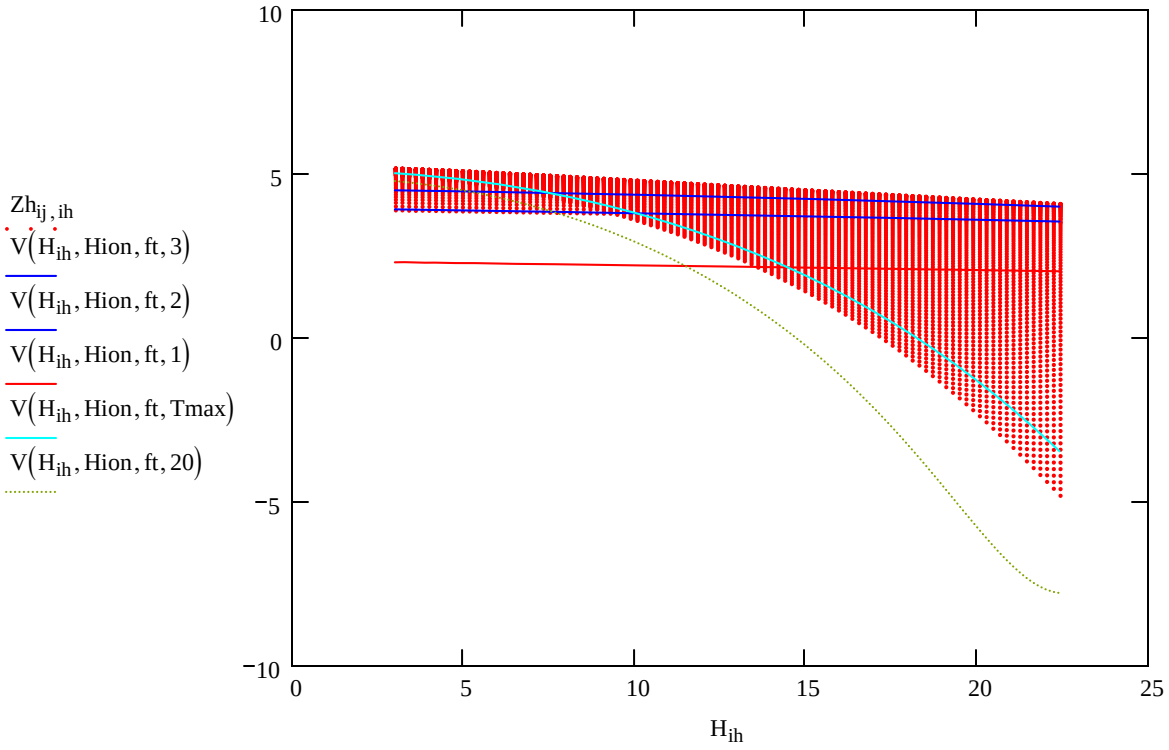


Vertical Pol Sea water

$Tmin := 2$

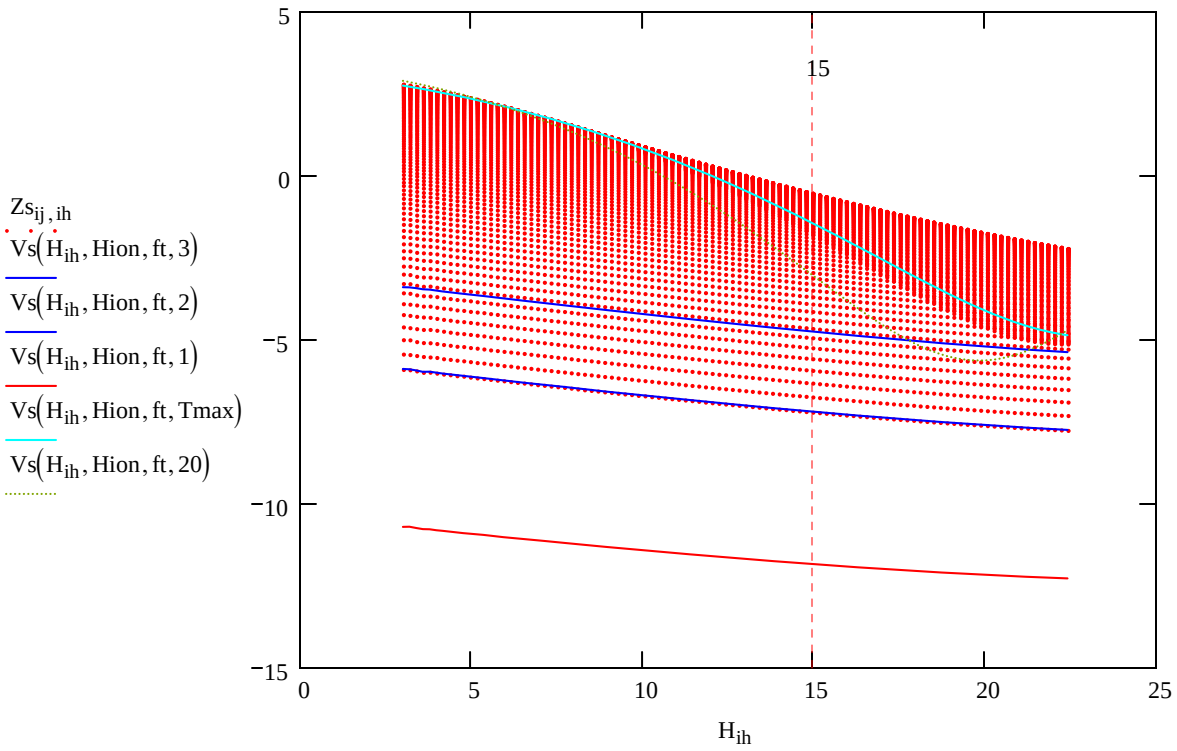
$ft := 10$

$Tmax := 16$ $\quad to_{ij} := Tmin + \frac{ij}{IH - 1} \cdot (Tmax - 1)$ $\quad Zh_{ij,ih} := V(H_{ih}, Hion, ft, to_{ij})$



Vertical Pol Earth

$ft = 10$ $\quad Zs_{ij,ih} := Vs(H_{ih}, Hion, ft, to_{ij})$



These equations were used to compute the results in:

[1] K. Siwiak, “An Optimum Height for an Elevated HF Antenna” QEX May/June 2011.
[2] K. Siwiak, "What's the Optimum Height for an HF Antenna?” QST June 2011.
[3] K. Siwiak, “Optimum Height for an Elevated Communications Antenna”, DUBUS Magazine, Vol. 39, 3rd Quarter 2010, pp. 86-99.

They are presented here without warrantee or technical support. Use at your own risk.