

Table 1: Initial guesses for different model parameter combinations that led to a solution using NK solvers (from Sapkota, 2020)

Fixed Sw/St	$\alpha_{Th}/\alpha_{Tv} = 5$	$\alpha_{Th}/\alpha_{Tv} = 10$	$\alpha_{Th}/\alpha_{Tv} = 15$	$\alpha_{Th}/\alpha_{Tv} = 20$
$S_w = 1$	$X_{wmax} = L_{max}/3, W_{max} = S_w \times 1.2$			
$S_w = 2$	$X_{wmax} = L_{max}/3$ $W_{max} = S_w \times 1.3$	$X_{wmax} = L_{max}/3$ $W_{max} = S_w \times 1.2$	$X_{wmax} = L_{max}/3$ $W_{max} = S_w \times 1.3$	$X_{wmax} = L_{max}/3$ $W_{max} = S_w \times 1.2$
$S_w = 3$	$X_{wmax} = L_{max}/5, W_{max} = S_w \times 1.3$			
$S_w = 4$	$X_{wmax} = L_{max}/6, W_{max} = S_w \times 1.3$			
$S_w = 5$	$X_{wmax} = L_{max}/7$ $W_{max} = S_w \times 1.2$	$X_{wmax} = L_{max}/6$ $W_{max} = S_w \times 1.3$	$X_{wmax} = L_{max}/7, W_{max} = S_w \times 1.3$	
$S_t = 1$	$X_{wmax} = L_{max}/6$		$X_{wmax} = L_{max}/5$ $W_{max} = S_w \times 1$	$X_{wmax} = L_{max}/6$ $W_{max} = S_w \times 1$
$S_t = 2$	$X_{wmax} = L_{max}/6$	$X_{wmax} = L_{max}/6$ $W_{max} = S_w \times 1.2$		$X_{wmax} = L_{max}/6$ $W_{max} = S_w \times 1.1$
$S_t = 3$	$X_{wmax} = L_{max}/6$ $W_{max} = S_w \times 1.2$	$X_{wmax} = L_{max}/6$ $W_{max} = S_w \times 1.1$	$X_{wmax} = L_{max}/6, W_{max} = S_w \times 1.2$	
$S_t = 4$	$X_{wmax} = L_{max}/4$		$X_{wmax} = L_{max}/6, W_{max} = S_w \times 1.2$	
$S_t = 5$	$X_{wmax} = L_{max}/4$ $W_{max} = S_w \times 1.2$	$X_{wmax} = L_{max}/4, W_{max} = S_w \times 1.25$		

Reference:

Sapkota, P. (2020). The Role of Contaminant Source Geometries on the Transverse Extension of Plumes. M.Sc. Thesis, Hochschule für Technik und Wirtschaft Dresden/ Technische Universität Dresden, Dresden, Germany.