

9-cell formation pressure estimate @model

Average of numerically calculated pressure values in **9-cell grid area** A_{e9} of reservoir flow simulation model (see also Fig. 1 below):

$$(1) \quad p_{e9}(i, j) = \frac{1}{9} \cdot \left(\sum_{k=i-1}^{i+1} \sum_{l=j-1}^{j+1} p_{k,l} \right)$$

or in explicit form:

$$(2) \quad p_{e9, i,j} = \frac{1}{9} \cdot \left(p_{i-1, j+1} + p_{i, j+1} + p_{i+1, j+1} + p_{i-1, j} + p_{i, j} + p_{i+1, j} + p_{i-1, j-1} + p_{i, j-1} + p_{i+1, j-1} \right)$$

$p_{i-1, j+1}$	$p_{i, j+1}$	$p_{i+1, j+1}$
$p_{i-1, j}$	$p_{i, j}$	$p_{i+1, j}$
$p_{i-1, j-1}$	$p_{i, j-1}$	$p_{i+1, j-1}$
Fig. 1. Averaging schematic around 9-grid area.		