Corrections to the script

"A Compact Introduction to the Numerical Modeling of Multiphase Flows" by M. Wörner

In the printed and in the online version (http://bibliothek.fzk.de/zb/berichte/FZKA6932.pdf) of the script the unit normal vector $\hat{\mathbf{n}}_k$ to the interface is defined as pointing *inside* phase k. This is opposite to today's common practice where the normal vector is defined to point *out of* phase k. For consistency, this definition is changed below to be in line with common practice. This requires correcting some signs in related definitions and equations as follows:

Page v:

$\hat{\mathbf{n}}_1, \hat{\mathbf{n}}_2$ unit normal vector to the interface pointing out of phase 1 and 2, respectively

Page 14, Equation (25):

$$\nabla X_k = -\hat{\mathbf{n}}_k \delta(\mathbf{x} - \mathbf{x}_i, t)$$

Page 15, Subsection 3.1.3

Gauß rule (Equation 27):

$$\overline{X_k \nabla \psi_k}^V = \nabla \overline{X_k \psi_k}^V - \overline{\psi_{ki} \nabla X_k}^V = \nabla \overline{X_k \psi_k}^V + \frac{1}{V} \iint_{S_i \cap V} \hat{\mathbf{n}}_k \psi_{ki}(\mathbf{x}+\boldsymbol{\eta},t) \mathrm{d}S$$

Leibniz rule (last equation in subsection 3.1.3, unnumbered)

$$\overline{X_k \frac{\partial \psi_k}{\partial t}}^V = \frac{\partial}{\partial t} \overline{X_k \psi_k}^V + \overline{\psi_{ki} \mathbf{v}_i \cdot \nabla X_k}^V = \frac{\partial}{\partial t} \overline{X_k \psi_k}^V - \frac{1}{V} \iint_{S_i \cap V} \hat{\mathbf{n}}_k \cdot \mathbf{v}_i \psi_{ki}(\mathbf{x}+\boldsymbol{\eta},t) \mathrm{d}S$$

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