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Peculiarities of hydrogen interaction with alloys of $ZrFe_2$-$ZrMo_2$ system

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Quasibinary $ZrFe_2$-$ZrMo_2$ system represents an example of sufficiently complicated metallic system with Laves phase structure. Both binary intermetallic compounds $ZrFe_2$ and $ZrMo_2$ crystallise in cubic $MgCu_2$ structure type. Intermediate $ZrFe_{2-x}Mo_x$ compositions exhibit a lengthy region with hexagonal $MgZn_2$ structure type, and also two-phase ($MgCu_2$ + $MgZn_2$) regions. Such a variety of phases illustrate distinctly the influence of one of the main criterion of Laves phase formation, that is, the dimensional factor.

The hydride formation in this system was investigated at different PT-conditions in a number of works. This study presents an attempt to generalise all previous results.