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Convective Heat Transfer Coefficients in the Circulation

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ABSTRACT

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Convective heat transfer in the vessels of the circulatory system is investigated numerically. In the modeling, account is taken of the non-Newtonian rheological properties of blood and the presence of a cell-depleted plasma layer at the vessel wall. The latter is found to produce a remarkable enhancement of the heat transfer rate in the small vessels, while the effects due to the rheological behavior of blood are comparatively low. A comparison with experimental data available in the open literature is finally attempted.

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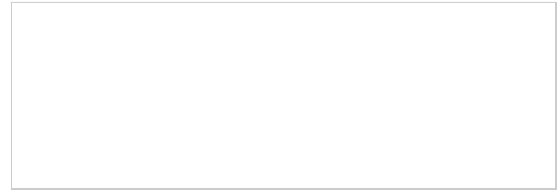
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