

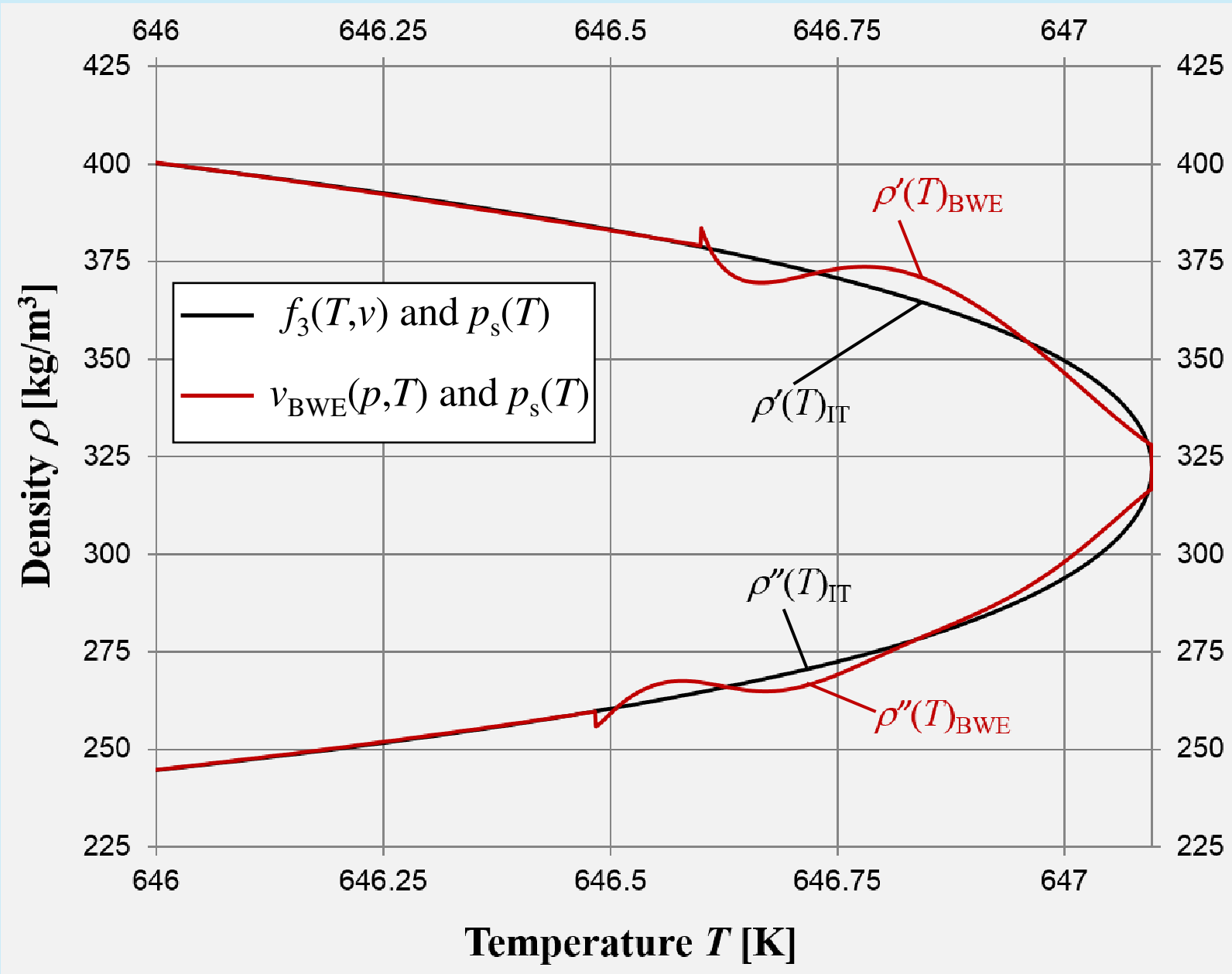
M. Kunick, H.-J. Kretzschmar, W. Wagner, A. H. Harvey

**Report on proposed Editorial Changes on the
Revised Supplementary Release on Backward Equations for
Specific Volume as a Function of Pressure and Temperature $v(p, T)$
for Region 3 of the IAPWS Industrial Formulation 1997 for the
Thermodynamic Properties of Water and Steam**

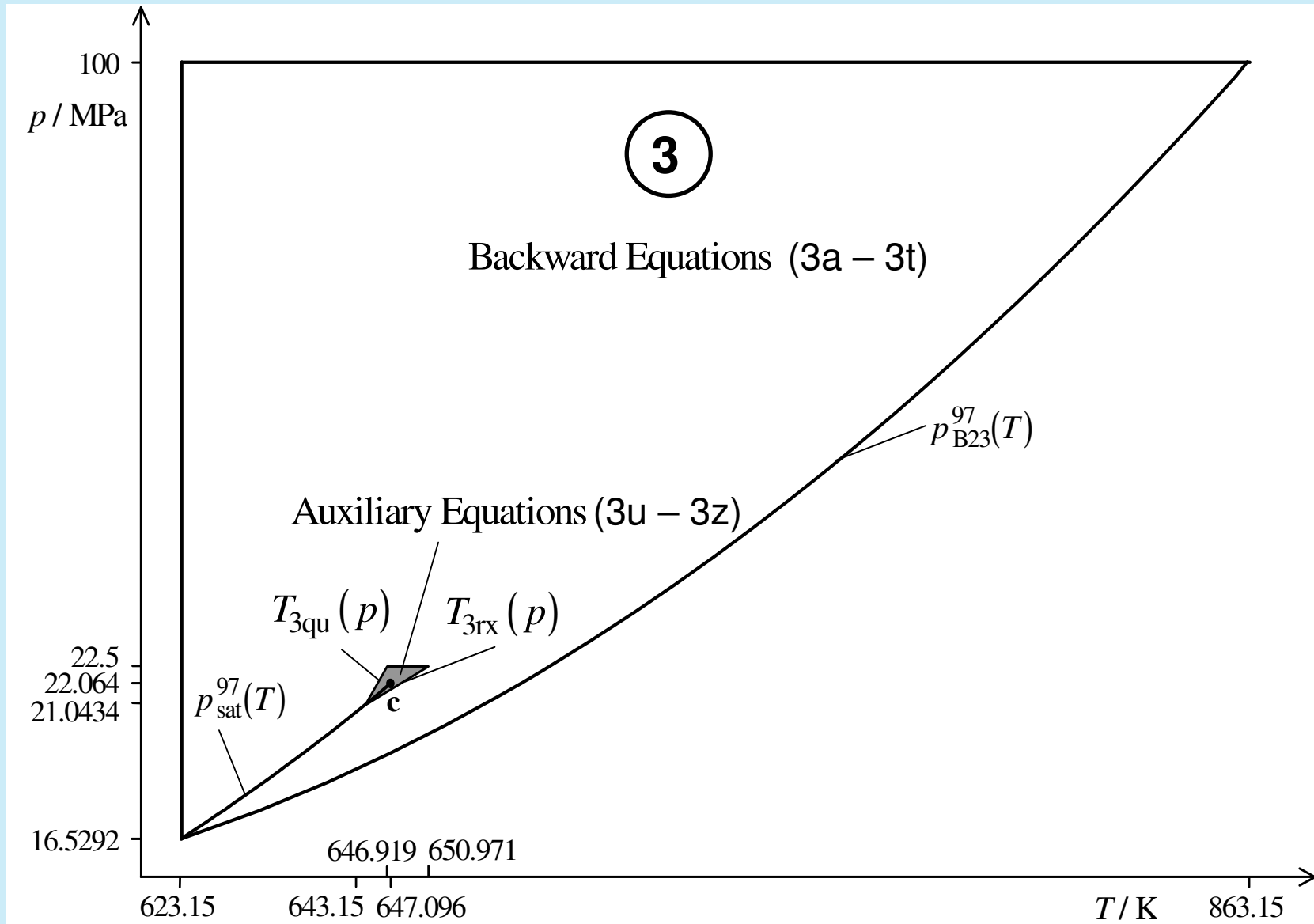
Background:

- **07/13/2016: Request from Dr. Peter Franz from Mighty River Power (hydroelectric and geothermal power plant operator in New Zealand):**
 - Implemented the IAPWS backward equations for $v(p, T)$ into a reservoir simulator
 - Found that the simulation got stuck in a small area around the critical point
 - Plotted a diagram to visualize the problem ...

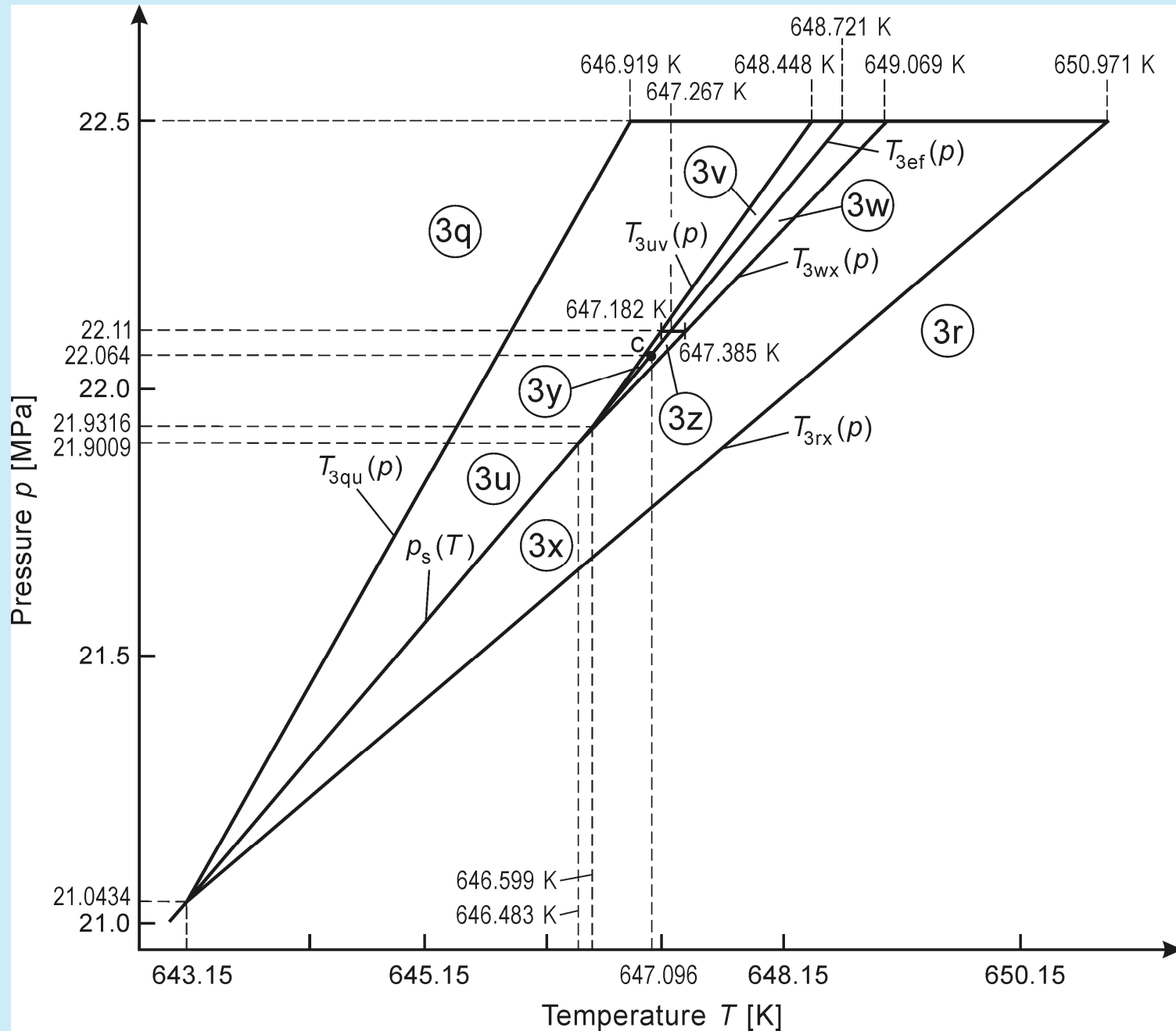
Densities at Saturation in the Vicinity of the Critical Point:



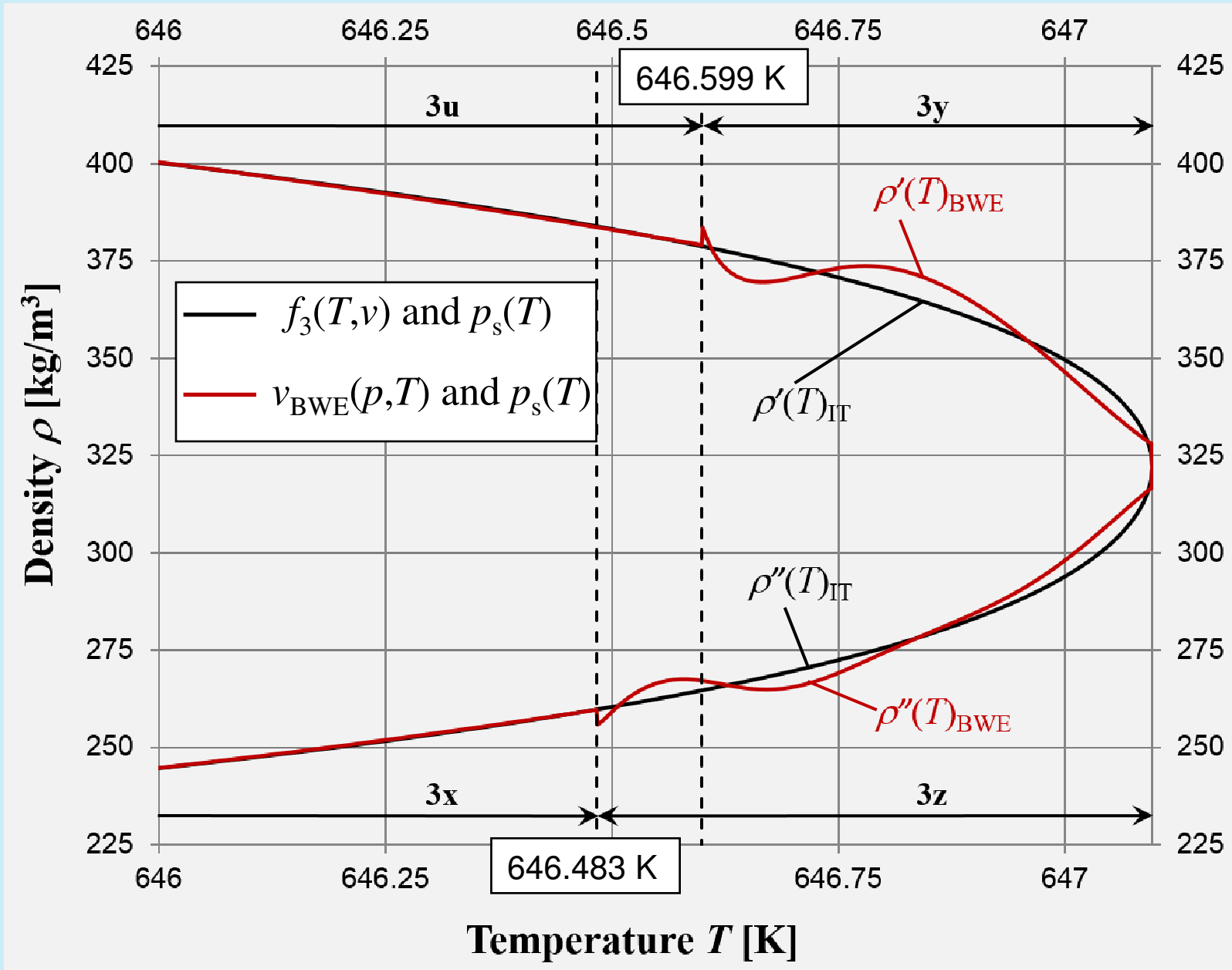
Backward Equations and Auxiliary Equations for $v(p,T)$ in Region 3:



Auxiliary Equations for $v(p,T)$ in the Vicinity of the Critical Point:



Densities at Saturation in the Vicinity of the Critical Point:



Editorial Changes

The International Association for the Properties of Water and Steam

Moscow, Russia

June 2014

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Thank you for your attention!