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**8th Liquid Matter Conference  
September 6-10, 2011  
Wien, Austria**

**Conference Book**

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**Volume Editors**

**I. Coluzza, R. Blaak, B. Capone, S. Jungblut**

Published by: European Physical Society  
Series Editor: Prof. O. Scholten, Groningen, The Netherlands  
Managing Editor: P. Helfenstein, Mulhouse

Europhysics Conference Abstracts  
Volume 35D  
ISBN: 2-914771-71-1

Cover design: M. Reinecker  
Cover photo: R. Krennert

## On peculiarities of viscosity of the $\text{Co}_{91}\text{B}_9$ melt

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The method of damped torsional vibrations has been employed to study the temperature dependence of viscosity of the amorphizing  $\text{Co}_{91}\text{B}_9$  melt. The investigations have been made in the  $\text{Al}_2\text{O}_3$  and BeO crucibles in a protective helium atmosphere, using an automated installation [1]. Two sets of experiments have been performed. In the former case, the upper surface of the melt is free, i. e. , the sample has one face surface, which contacts with the crucible. In the latter case, the upper surface of the melt contacts with the cover, thus, the sample has two face surfaces that contact with the crucible. At heating two anomalies are observed in the temperature dependence of the damping decrement of the suspension system with the melt which has been obtained in the first set of the experiments. The first anomaly is a sharp decrease of the damping decrement values in the range of 1450-1500°C. The second one is the increase of the decrement values in the range of 1500-1540°C. The only anomaly which was obtained in the second set of the experiments in the form of increasing values of the decrement in the range of 1500-1540°C has been revealed in the polytherm of the damping decrement on heating. The melt viscosity was calculated in both sets of experiments. It has been shown that the anomaly in the temperature range of 1450-1500°C in the damping decrement polytherm is caused by the changing of the state of the melt surface when the melt is heated [2]. The anomaly in the form of increasing the viscosity values in the temperature range of 1500-1540°C at heating which is observed in the temperature dependence of viscosity of  $\text{Co}_{91}\text{B}_9$  seems to be caused by the structural transformation in the melt. References [1] A. L. Bel'tyukov, V. I. Lad'yanov, *Instruments and Experimental Techniques*, 51, 2, 304-310, (2008). [2] A. L. Bel'tyukov, V. I. Lad'yanov, N. V. Olyanina, *Rasplavy*, 6, 19-27, (2009).