Igor Vadimovich Svechkarev (On his 80th birthday)

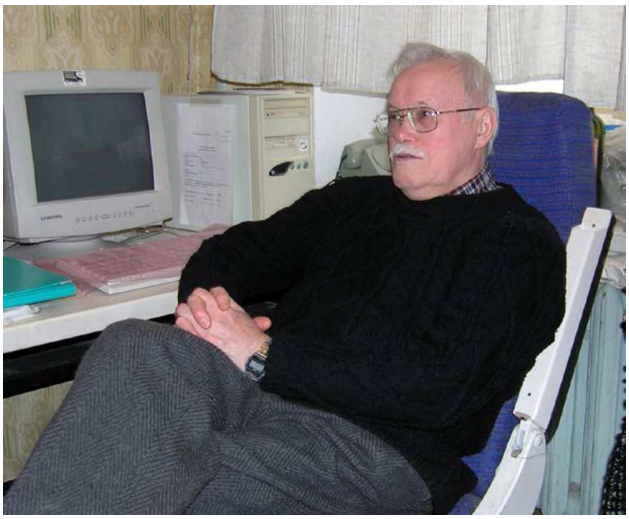
(Submitted October 29, 2015)
Fiz. Nizk. Temp. **41**, 1211–1212 (December 2015)

December 16, 2015 is the eightieth birthday of Doctor of Physical and Mathematical Sciences and Professor Igor Vadimovich Svechkarev.

After graduating from Kharkov State University in 1960, I. V. Svechkarev came to work at the Institute of Low-temperature Physics and Engineering. Since then, for more than 50 years, he has been connected continuously with the Institute. As one of the closest assistants of the founder of the Institute, B. I. Verkin, Svechkarev contributed significantly to the establishment and development of the Institute of Low-temperature Physics and Engineering. For 42 years, he has directed the division dealing with the magnetic properties and spectroscopy of metals. In their pioneering studies of the magnetism of simple metals and alloys, Svechkarev and his students were the first to observe the features of magnetic susceptibility owing to the closeness of the Fermi level to singular points in the electronic spectrum, a discovery that formed the basis of a new area of scientific research—the spectroscopy of conducting systems by magnetic techniques. Svechkarev's work on the spectroscopy of metallic systems was awarded the State Prize of the Ukrainian Soviet Socialist Republic in1980.

One major area of I. V. Svechkarev's research has been the magnetism of strongly correlated systems and its relationship to aspects of the electronic structure in compounds of the transition and rare-earth elements and the actinides. Studies of the magnetic susceptibility of these systems at high pressures have made it possible to identify and quantitatively describe the main mechanisms for realignment of the electronic spectra and for the behavior of exchange-correlation effects in transition metals with changes in interatomic distance, as well as the pressure dependence of the parameters of the exchange interaction and valence state over a wide class of rare-earth compounds. He has also devoted great attention to studies of the magnetic characteristics and electron spectra of new superconductors, including HTSC, in the normal state.

I. V. Svechkarev is the author and coauthor of more than 200 scientific articles. His work is widely cited in the worldwide literature and his results are reflected in many domestic and foreign books and handbooks. He has participated in the organizing committees for many international conferences and given numerous review talks. Igor Vadimovich's



scientific work is characterized by active collaboration with leading scientists from Germany, Canada, the Netherlands, Poland, Russia, Slovakia, the USA, the Czech Republic, Switzerland, Sweden, and Japan.

For many years, I. V. Svechkarev was deputy editor in chief of the journal *Low Temperature Physics* and helped it achieve a high international rating.

In this issue of the journal we present a series of review and original articles in areas of low-temperature solid state physics to which Igor Svechkarev has made a significant contribution. In particular, these areas include the physics of magnetic and electronic phenomena in compounds of the *d*- and *f*-metals with unusual types of magnetic ordering, variable valence, the Kondo effect, heavy fermion states, and high-temperature superconductivity. The editor of this issue thanks the colleagues, friends, and students of Igor Vadimovich for responding to our invitation and submitting their articles.

The editorial board of *Low Temperature Physics* congratulates Igor Vadimovich on his birthday and wishes him good health and more success in the future.

G. E. Grechnev

Translated by D. H. McNeill

