



1st ed. 2019, XIV, 346 p. 300 illus., 150 illus. in color.

## Printed book

Hardcover

119,99 € | £109.99 | \$149.99  $^{[1]}$ 128,39 € (D) | 131,99 € (A) | CHF 141,50

Softcover

84,99 € | £74.99 | \$109.99 [1]90,94 € (D) | 93,49 € (A) | CHF 100,50

## eBook

96,29 € | £87.50 | \$109.00  $^{[2]}$ 96,29 € (D) | 96,29 € (A) | CHF 113,00

Available from your library or springer.com/shop

## MyCopy [3]

Printed eBook for just € | \$ 24.99 springer.com/mycopy

Vadim Dudnikov

## Development and Applications of Negative Ion Sources

Series: Springer Series on Atomic, Optical, and Plasma Physics

- · Focuses on practical applications without neglecting the fundamental science
- Provides a comprehensive reference indispensable to professionals and students alike
- · Available for the first time in English

This book describes the development of sources of negative ions and their application in science and industry. It describes the physical foundations and implementation of the key methods of negative ion production and control, such as charge exchange, thermionic emission, secondary emission (sputtering) and surface-plasma sources, as well as the history of their development. Following on from this essential foundational material, the book goes on to explore transport of negative ion beams, and beam-plasma instabilities. With exposition accessible at the graduate level, and a comprehensive bibliography, this book will appeal to all students and researchers whose work concerns ion sources and their applications to accelerators, beam physics, storage rings, cyclotrons, and plasma traps.



Order online at springer.com / or for the Americas call (toll free) 1-800-SPRINGER / or email us at: customerservice@springernature.com. / For outside the Americas call +49 (0) 6221-345-4301 / or email us at: customerservice@springernature.com.

The first  $\in$  price and the  $\mathfrak L$  and  $\mathfrak L$  price are net prices, subject to local VAT. Prices indicated with [1] include VAT for books; the  $\in$ (D) includes 7% for Germany, the  $\in$ (A) includes 10% for Austria. Prices indicated with [2] include VAT for electronic products; 19% for Germany, 20% for Austria. All prices exclusive of carriage charges. Prices and other details are subject to change without notice. All errors and omissions excepted. [3] No discount for MyCopy.