Hec

I – 1294

He^-, He, Li^+, B^{3+}, O^{6+}, Ne^{8+}) энерг. основного состояния 1957

Hart J.F., Herzberg C.
Phys.Rev., 1957, 106, N 1, 79-82( )
Twenty-parameter eigenfunvtions and energy values of the ground states of He and He-like ions.

РХ., 1958, N 3, 6866.

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1962

$B^-, C^-, N^-, O^-, F^-, Al^-, Si^-, P^-, S^-,$

Cl^- (A)

H^-, He^-, Li^- (A)

Holøien E.
Phys.Nowegica, 1961, 1, 53-111
(in English)
Suvesfigation of quasistationary
...

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XI - 4347

A. J (He^-, Ne^{7+}, Ne^{8+}, Ne^{9+}, A_2^{8+}, Ne^-, F^{2-}, P^{3-}, O^{3-}, H^{2-}) (1963

Crossley R.J.S, Coulson C.A.

Proc. Phys. Soc, 1963, 81, N2, 211-218

лаб. опт.

РЖ физ, 1964 (10

He⁻

1967

108403k Energy calculation of the metastable $(1s2s2p)^4P^\circ$ state of He^- and Li. E. Holoeien, and J. Midtdal (Univ. Oslo. Norway). *Proc. Phys. Soc.* 90(3), 883–5(1967)(Eng). Owing to a mistake in algebra made by H. and Midtdal (*CA* 50, 671*e*) when evaluating the matrix elements of the kinetic energy part of the Hamiltonian operator, the numerical values obtained for the energy and the coeffs. of the corresponding eigenvector are in error. The error is assocd. only with correlated basis functions because the correction term vanishes for those which are non-correlated. The corrected values obtained by the reexamn. for Li are more consistent with recent results from electron-impact expts. New results for the energy and the corresponding eigenvector are given for a 15th-order subset both for He^- and Li.
RCPN

+1

C.A. 1967 · 66 · 24

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XI-163

(1970

He – (Ei, kv. mex. raschet)

Eliezer I, Pan Y.K.,
Theor. Chim. Acta, 1970, 16(1),
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He^-

1987

Э 9 Д31. Двухэлектронная ионизационная лестница в ионах $He^-(^2S)$ и $H^-(^1S)$. The two-electron ionisation ladder for He^- ^2S and H^- ^1S. Komninos Y., Chrysos M., Nicolaides C. A. «J. Phys. B: Atom. and Mol. Phys.», 1987, 20, № 23, L791—L796 (англ.)

Выполнен квантовомеханич. расчет энергий состояний $He^-(1snl^2\,^2S)$ и $H^-(nl^2\,^1S)$ ($n=3$—10) и пространственных распределений валентных электронов в этих состояниях. Волн. ф-ции нулевого приближения рассчитывались в многоконфигурац. приближении Хартри—Фока, корреляции учитывались вариац. методом. Установлены следующие особенности исследованных систем: при увеличении n возрастает вклад конфигураций с более высокими значениями l; средний радиус системы из двух электронов в He^- меньше, чем в H^-; при увеличении n значения энергий для He^- и H^- сближаются; пространственные распределения электронов в He^- и H^- подобны и свидетельствуют об их локализации на гребне Ванье ($r_1=-r_2$). Г. Н. Огурцов

(Ei)

Ф. 1988, 18, N 9

He^-

1988

(сечение фотоотр.)

109: 197380x Many-body calculation of negative ions using the Dyson equation. Chernysheva, L. V.; Gribakin, G. F.; Ivanov, V. K.; Kuchiev, M. Yu. (Leningrad Inst. Inf. Autom., Leningrad, USSR). *J. Phys. B: At., Mol. Opt. Phys.* 1988, 21(15), L419–L425 (Eng). A new method of calcg. at. neg. ions is developed. It is based on the Dyson equation, and gives the binding energy and the wave function of the outer electron in the neg. ion. The calcn. for He^- $1s2s2p\ ^4P$ is consistent with expt. The photodetachment cross section for $He^-\ ^4P$ is calcd. for the first time. The phase shift for p-electron quartet scattering by He $1s2s\ ^3S$ is presented. Results for the first calcn. of $Pd^-\ 4d^{10}5s^2S$ are reported.

C.A. 1988, 109, N 22

He^-

1996

Э23 Б123. **Связанные состояния He^-.** Bound states of He^- / Bylicki Mirosław, Pestka Grzegorz // J. Phys. B .— 1996 .— **29** , № 9 .— С. L353—L357 .— Англ.

Получены точные нерелятивистские энергии двух связанных состояний He^- путем вариационных расчетов с использованием базиса r_{ij}-коррелированных функций. Верхние границы состояний $1s2s2p^4\ P^0$ и $2p^3\ {}^4S^0$ соответственно равны —2,17807725 а. е. и —0,72305872 а. е. Библ. 32. Г. К.

Х. 1996, N 23

1999

F: He-
P: 3
132:69501 Electronic structures of the bound excited quartet states of th(helium anion. Mercero, Jose M.; Elorza, Jose M.; Ugalde, Jesus M.; Boyd, Russell J. Kimika Fakultatea, Euskal Herriko Unibertsitatea Donostia 20080, Spain Phys. Rev. A: At., Mol., Opt. Phys., 60(6), 4375-4378 (English) 1999 The radial and electron-pair d. functions of two bound excited states of the helium anion have been calcd. at the full configuration-interaction l with an extended basis set. It is shown that the form of the radial d. i (1s2s2p)4P and (2p3)4S states of He- is readily interpreted in terms of o contributions, even at the full configuration level at which level of the notion of an electronic configuration loses its precise meaning. The sma radial distance of the L-shell max. in the 4S

C. A. 2000, 132

state relative to the lower 4P state is interpreted in terms of a higher effective nuclear charge in state. The more compact electron cloud of the 4S state leads to a narrow intracule d. than that obsd. for the 4P state. The 4S state is shown to Coulomb hole with the same classic form as the ground state of helium but radius that is about six times larger. The depth of the Coulomb hole is substantially greater in the 4S state than in the 4P state, as expected f fact that the correlation energy is greater in the former state. The Cou holes of both states exhibit a vanishingly small depth at small interelec distances due to the presence of the Fermi hole.