The Fractional-Linear Function in the Hyperbolic Law

ALBERT KHAZAN — The maintenance of any element in a chemical compound decreases with increase of the molecular weight under the equipotential hyperbolic law $Y = \frac{K}{X}$ (1). However the size $(1-Y)$ increases according to the equation $1-Y = \frac{K}{X}$ or $Y = \frac{(X-K)}{X}$ (2). This function refers to as fractional-linear one, and after transformations turns to the equation of an equipotential hyperbola whose center is displaced from the beginning of the coordinates about $(0; 0)$ in a point with $(0; 1)$. Hence, the valid axis on which there tops of new hyperboles are, pass perpendicularly to the axes of the equation (1). We shall enter names for hyperboles: (1) - “straight one,” (2) - “adjacent one.” Their directions are mutually opposite in the point $Y=0.5$ of crossing of each pair; this line is an axis of symmetry for all the hyperboles; the abscissa is equal to the double nuclear weight of any element $(2K)$. Coordinates of other crossing points of the hyperboles have following parameters: $X = (K_1+K_2)$, $Y_1 = \frac{K_1}{K_1+K_2}$, $Y_2 = \frac{K_2}{K_1+K_2}$. At the last element the curves designate the borders of the existence of possible chemical compounds (Progr. Phys., 2007, 1, 38; 2, 83; 2, 104; 2008, 3, 56).