Inequalities of the Hilbert type in $\mathbf{R}^n$ with non-conjugate exponents

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We state and prove a new general Hilbert-type inequality in $\mathbf{R}^n$ with $k \geq 2$ non-conjugate exponents. Using Selberg's integral formula, we apply this result to obtain explicit upper bounds for the doubly weighted Hardy-Littlewood-Sobolev inequality and some further Hilbert-type inequalities for k non-negative functions and non-conjugate exponents. This talk presents a part of a joint work with Prof. Ivan Perić and Predrag Vuković from University of Zagreb, Croatia.