Povzetek

Imamo homogeno linearno diferencialno enačbo n-tega reda

$$a_n(x)y^{(n)}(x) + \cdots + a_1(x)y'(x) + a_0(x)y(x) = 0,$$

kjer so koeficienti $a_0(x), \ldots, a_n(x)$ polinomi iz $\mathbb{Q}[x]$. Iščemo hipereksponentne rešitve te enačbe; to so rešitve $y(x)$, za katere velja $y'(x)/y(x) \in \mathbb{C}(x)$. Določitev hipereksponentnih rešitev je pomemben vmesni korak pri iskanju vseh Liouvilleovih rešitev dane diferencialne enačbe.

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Key words: differential algebra, Liouville extension, differential equation, hyperexponential solution;
Ključne besede: diferencialna algebra, Liouvilleova razširitev, diferencialna enačba, hipereksponentna rešitev;

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