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Andrei Minchenko* (an.minchenko@gmail.com), Faculty of Mathematics and Computer Science, Weizmann Institute of Science, 234 Herzl St, 7610001 Rehovot, Israel. *Calculating parameterized Picard-Vessiot group.*

One of the most important problems of differential Galois theory is description of the Galois group of a linear differential equation with parameters. Moreover, one wants to know an algorithm that finds the defining equations of this group. There have been many results providing solution for special cases but in general the problem is still unsolved. I will try to sum up what is known and explain a possible general approach. (Received September 22, 2015)