

**Praagman, C.**

**Stokes and Gevrey phenomena in relation to index theorems in the theory of meromorphic linear difference equations.** (English) [Zbl 0618.39002](#)

Funkc. Ekvacioj, Ser. Int. 29, 259-279 (1986).

The author discusses the meromorphic linear difference equation

$$a_m(z)f(z+m) + a_{m-1}(z)f(z+m-1) + \dots + a_0(z)f(z) = g(z)$$

where  $a_m, \dots, a_0$  and  $g$  are holomorphic in the full neighborhood of infinity. He proves some general results on solutions of such equations as well as on more general difference operators. The author's main theorem is as follows: The solvability index of a difference operator  $\Phi \in O[\phi]$  in  $\hat{O}_s$ ,  $i_s(\Phi) = \infty$  for  $s \geq 2$ .

Reviewer: [F.Gross](#)

**MSC:**

[39A10](#) Additive difference equations

[30D05](#) Functional equations in the complex plane, iteration and composition of analytic functions of one complex variable

Cited in 4 Documents

**Keywords:**

[Stokes phenomenon](#); [Gevrey phenomenon](#); [index theorems](#); [holomorphic coefficients](#); [meromorphic linear difference equation](#); [solvability index](#); [difference operator](#)