

[Changgui Zhang](#) (Lille) : *Some problems about a family of linear functional differential equations*

Abstract. Given  $q$  between 0 and 1, one considers the following problems about the  $q$ -difference-differential equation

$$y'(x) = a y(qx) + b y(x) + f(x),$$

where  $a$  and  $b$  are two complex numbers and where  $f$  is a rational function:

- (1) The pantograph equations following Kato and McLeod;
- (2) The indexes of the associated operator  $d/dx - a\sigma_q - b$ ;
- (3) The connection formulas between zero and infinity;
- (4) The asymptotic behavior of the solutions at infinity.

This talk is partially based on a joint work with H. Dai and G. Chen (HITSZ).