

# On the comparison of the Fridman invariant and the squeezing function

Kamil Gacek

## Abstract

Fridman invariant and squeezing function have attracted much attention in recent years. Since they are similar in spirit to the Kobayashi-Eisenman volume form  $K_D$  and the Caratheodory volume form  $C_D$ , it is a natural problem to consider the comparison of these two biholomorphic invariants.

Let's consider a quotient  $m_D(z) = \frac{s_D(z)}{e_D(z)}$  where  $s_D(z)$  and  $e_D(z)$  are squeezing function and Fridman invariant respectively. We study the following two questions:

- 1) If  $m_D(z_0) = 1$  for some  $z_0 \in D$ , is  $D$  biholomorphic to the unit ball?
- 2) Is  $m_D(z)$  constantly equal to 1?