On the Kobayashi hyperbolicity of certain tube domains

(based on the paper by A. Huckleberry, A. Isaev)

For a domain $D \subset \mathbb{R}^n$ put

$$T_D := D + i\mathbb{R}^n;$$

T_D is called a *tube domain* with the *base* D. For a continuous function $h : \mathbb{R} \to \mathbb{R}$ put

$$D_h := \{(x_1, x_2) \in \mathbb{R}^2 : x_2 > h(x_1)\}.$$

Theorem 1. *If $h : \mathbb{R} \to \mathbb{R}$ is a continuous function satisfying the condition*

$$\forall b \in \mathbb{R}\ \exists p, q > 0 : \lim_{R\to\infty} qh(b - pR) + ph(b + qR) \to \infty,$$

then the Kobayashi pseudodistance on T_D is a distance.