

# Algebraic Dynamics and Dynamical Itaka Theory

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based on the joint work with Sheng Meng and Long Wang

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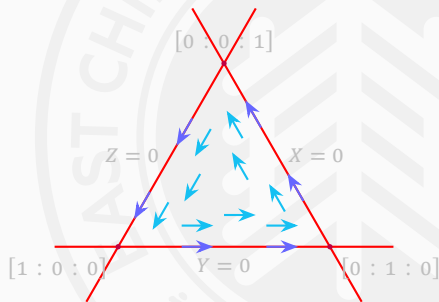
## Technique: criterion for toric bundles

### Theorem: [Meng-Wang-Y]

Let  $\pi : (X, f) \rightarrow (Y, g)$  be a Fano fibration with  $X$  smooth. Suppose that  $\exists$  reduced divisor  $D$  on  $X$  with  $f^{-1}(D) = D, f^*D \sim qD$  for some  $q > 1$  and  $K_X + D \equiv_\pi 0$ . Then  $\pi : X \rightarrow Y$  is a toric bundle.

This theorem generalizes the following absolute case ( $Y = \{\text{pt}\}$ ) criterion:

- [Hwang-Nakayama]  $\rho(X) = 1$  case;
- [Meng-Zhang] polarized case;
- [Meng-Zhong] int-amplified case.



$$f : \mathbb{P}^2 \rightarrow \mathbb{P}^2,$$

$$[X : Y : Z] \mapsto [X^q : Y^q : Z^q];$$

$$D = \{XYZ = 0\}.$$

# Thank You!

