

## Do comets evolve into asteroids? -A new approach from the viewpoint of meteor showers-

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Do comets evolve into some inactive objects like asteroids? This is the one of the important problem to be solved in the researches of the small solar system bodies, but the answer has not been fixed. From the point of view on the orbital evolution or accompanied meteor shower, we have some hints. Latest advancement on the evolution of the dust trail theory on the meteor showers makes us possible to forecast the activities of the showers. Applying this theory, we found the example of such an object, which is evolving to the relatively dormant comet from a comet. The comet Blanpain, the parent comet of the Phoenicids which showed the historical display of 1956 witnessed by the exploration ship Soya in the Indian Ocean. The asteroid 2003 WY25 recently discovered was identified by this comet, and we succeeded not only to reproduce the 1956's strong display, but also to indicate that the expected activity in 2014 is the good chance to explore the cometary activity of this object around 1900. We will present possibilities of such a new approach to clarify the activity history of parent objects by inspecting both the geometrical situation of the dust trails and the meteor shower activities.

### References:

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