STEM Scavenger Hunt: High School

Graph Analysis

Use graph of *Iron Rattler* to answer these questions. Match the locations on the graph (letters) to the descriptions (numbers). Letters may be used more than once or not at all.

___ 1. Lift Hill

___ 2. Maximum Potential Energy

___ 3. Maximum velocity

___ 4. Maximum Kinetic Energy

___ 5. Zero g roll

___ 6. Maximum vertical (X) acceleration

Use graph of *Superman* to answer these questions. Match the locations on the graph (letters) to the descriptions (numbers). Letters may be used more than once or not at all.

___ 1. Maximum Potential Energy ___ 2. Maximum Kinetic Energy

___ 3. Bottom of loop ___ 4. Top of loop

___ 5. Maximum vertical (X) acceleration

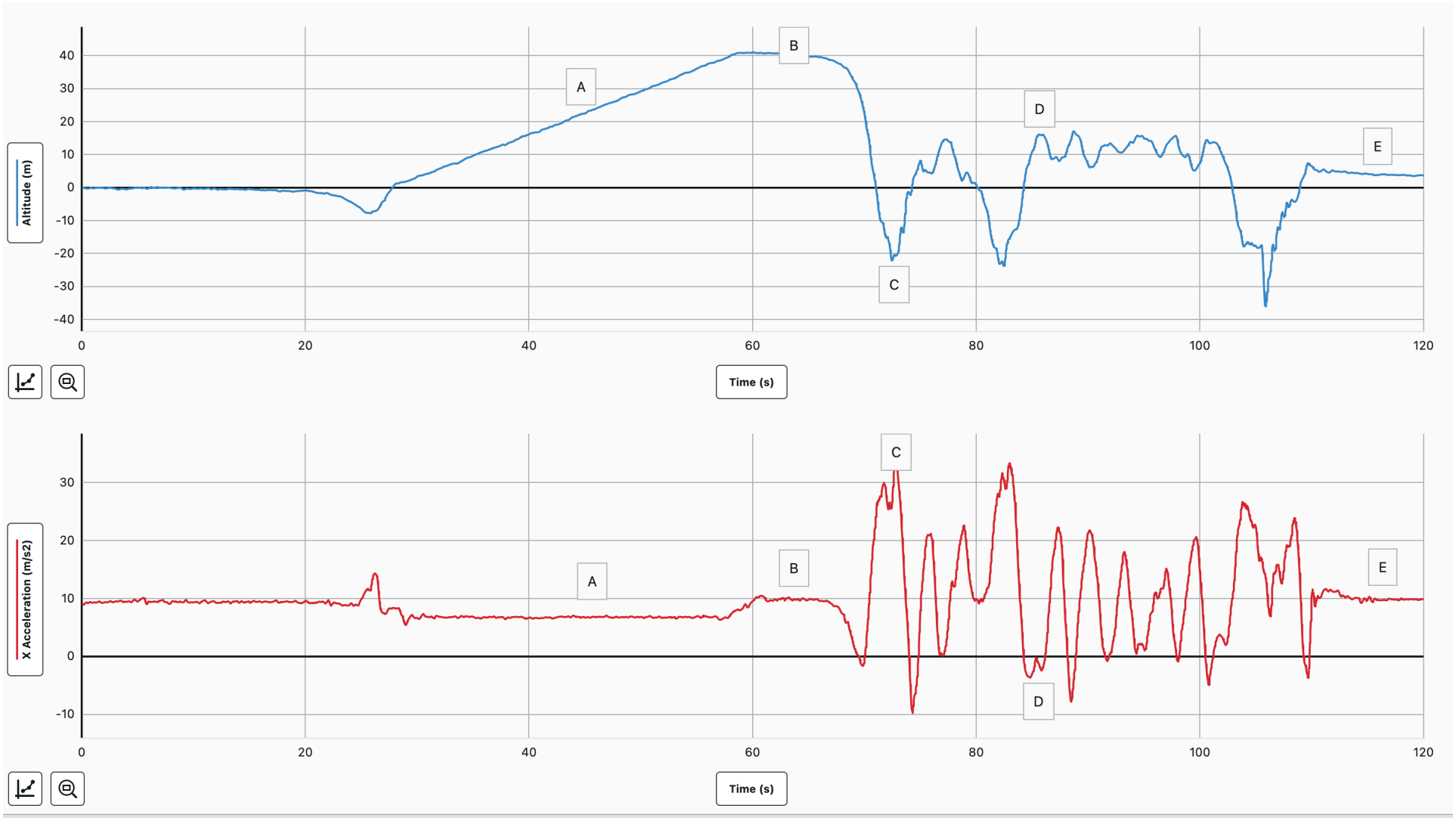
___ 6. Centripetal force is directed downward

___ 7. Feeling almost weightless

___ 8. 1 ”g”

Use graph of *Poltergeist* to answer this question. The Poltergeist is different from the rest of the coasters. A student, without even seeing the start of the ride, concludes that the train must be catapulted out of the station at great speed. Why?

Iron Rattler



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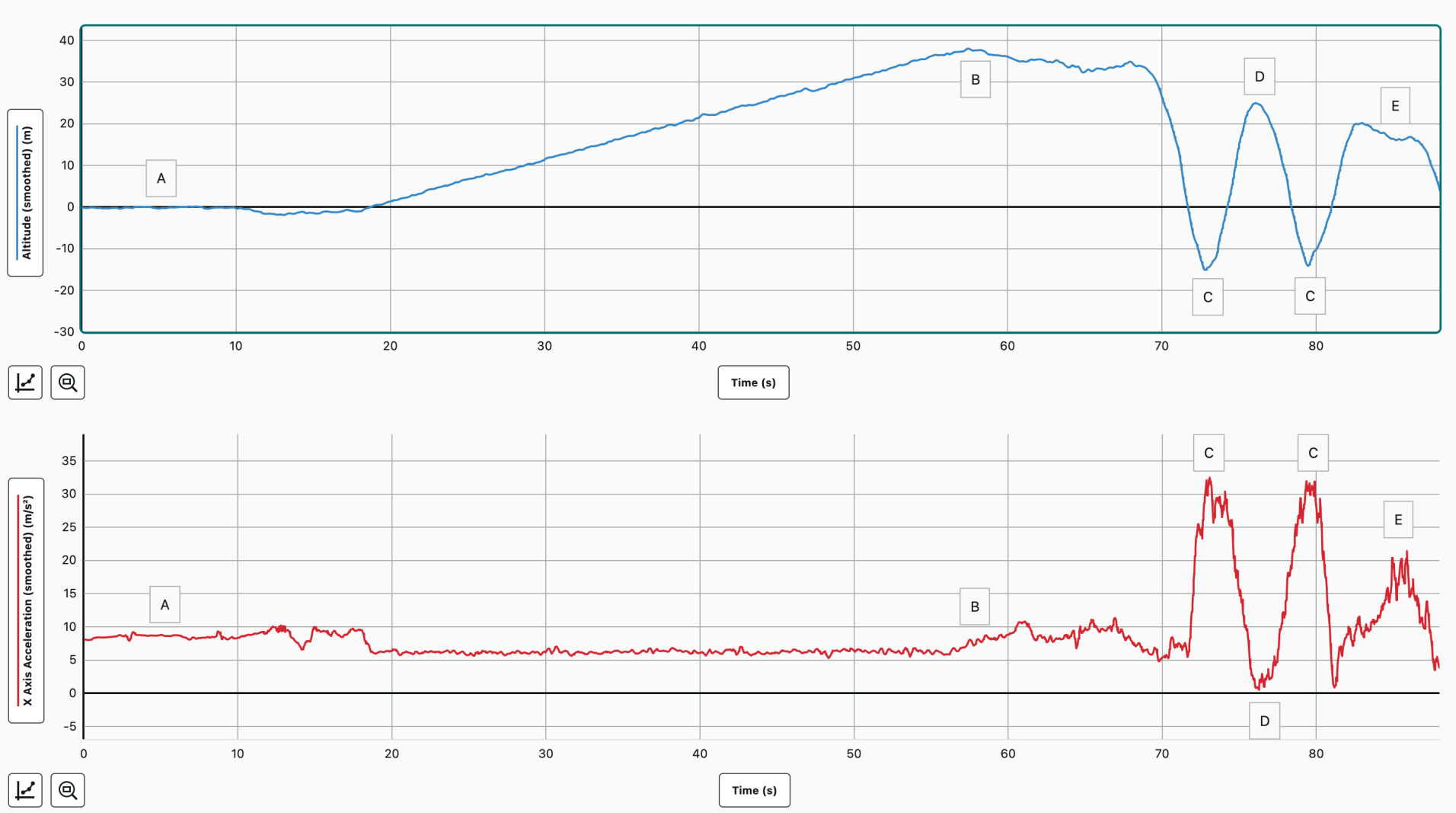
Superman



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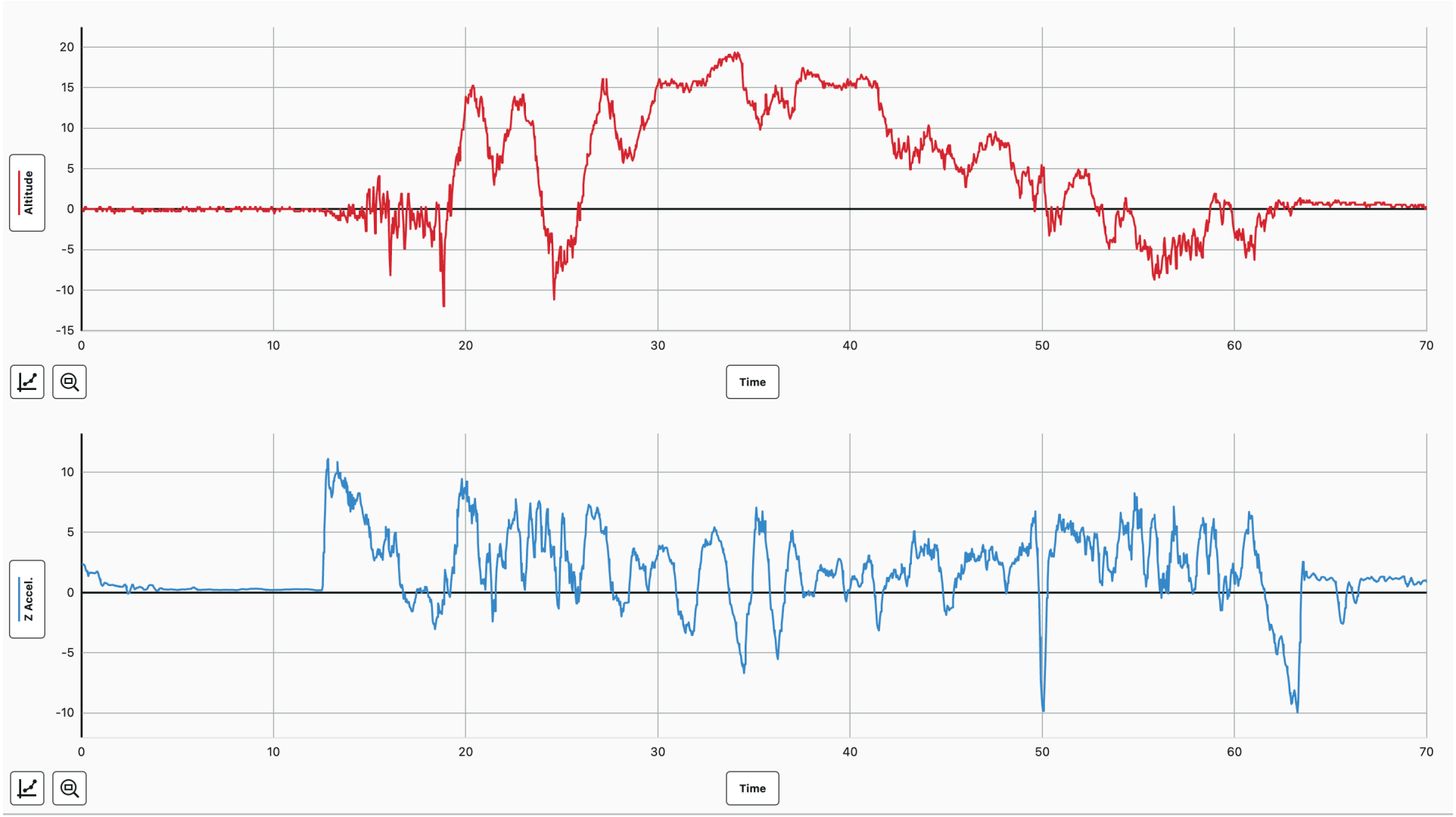
Poltergeist



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One thing that is different about the *Batman* ride is that the cars spin as well as run on the track. Watch the ride and observe the structure of the track and the cars. Is the spinning of the cars completely random or is there some pattern? Does something cause it? Look at the ride carefully. Explain your reasoning.