Examination of a simple case of gravitational wave memory
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— We examine a simple case of gravitational wave memory due to the decay of a point particle into two point particles. In the case where one of the decay products is null, there are two types of memory: a null memory due to the null particle and an ordinary memory due to the recoiling timelike particle. In the case where both decay products are timelike, there is only ordinary memory. However, this ordinary memory can mimic the null memory in the limit where one of the decay products has a large velocity.

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