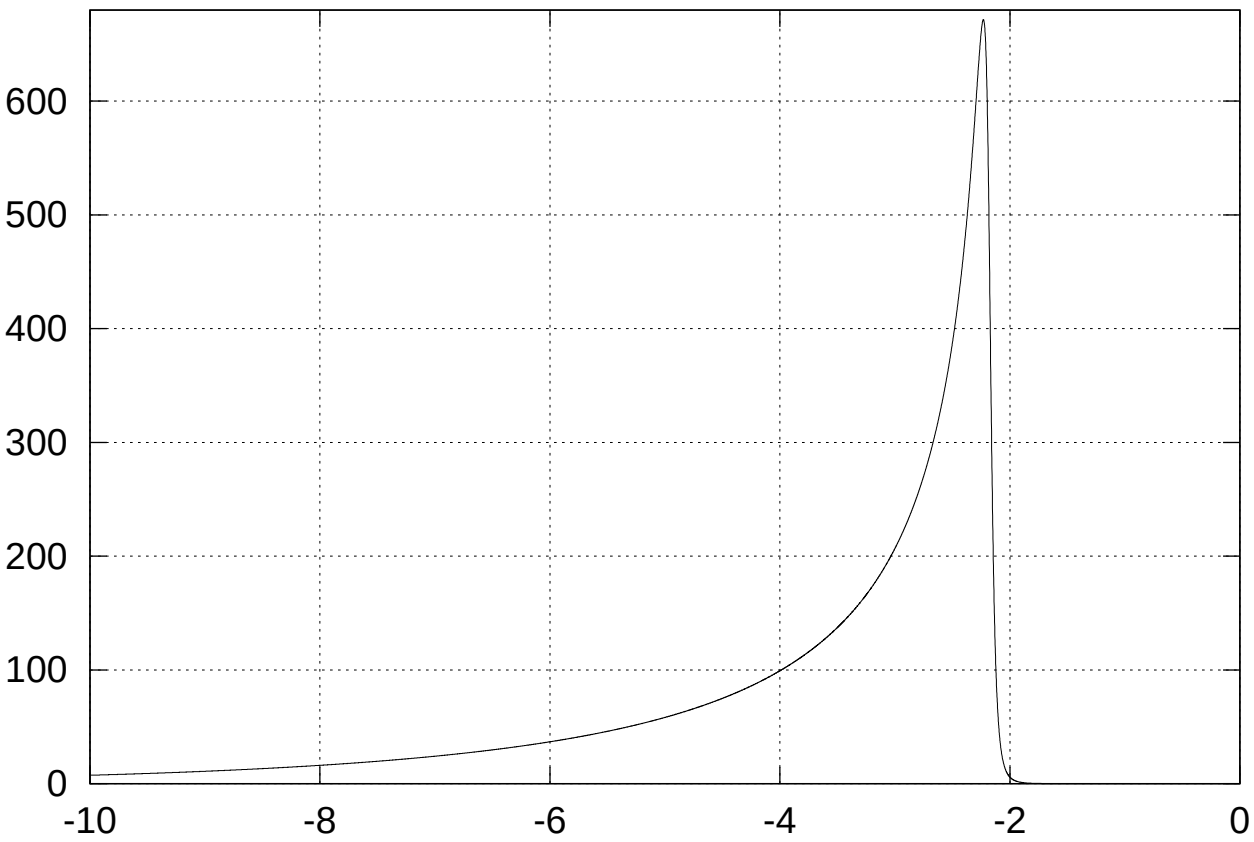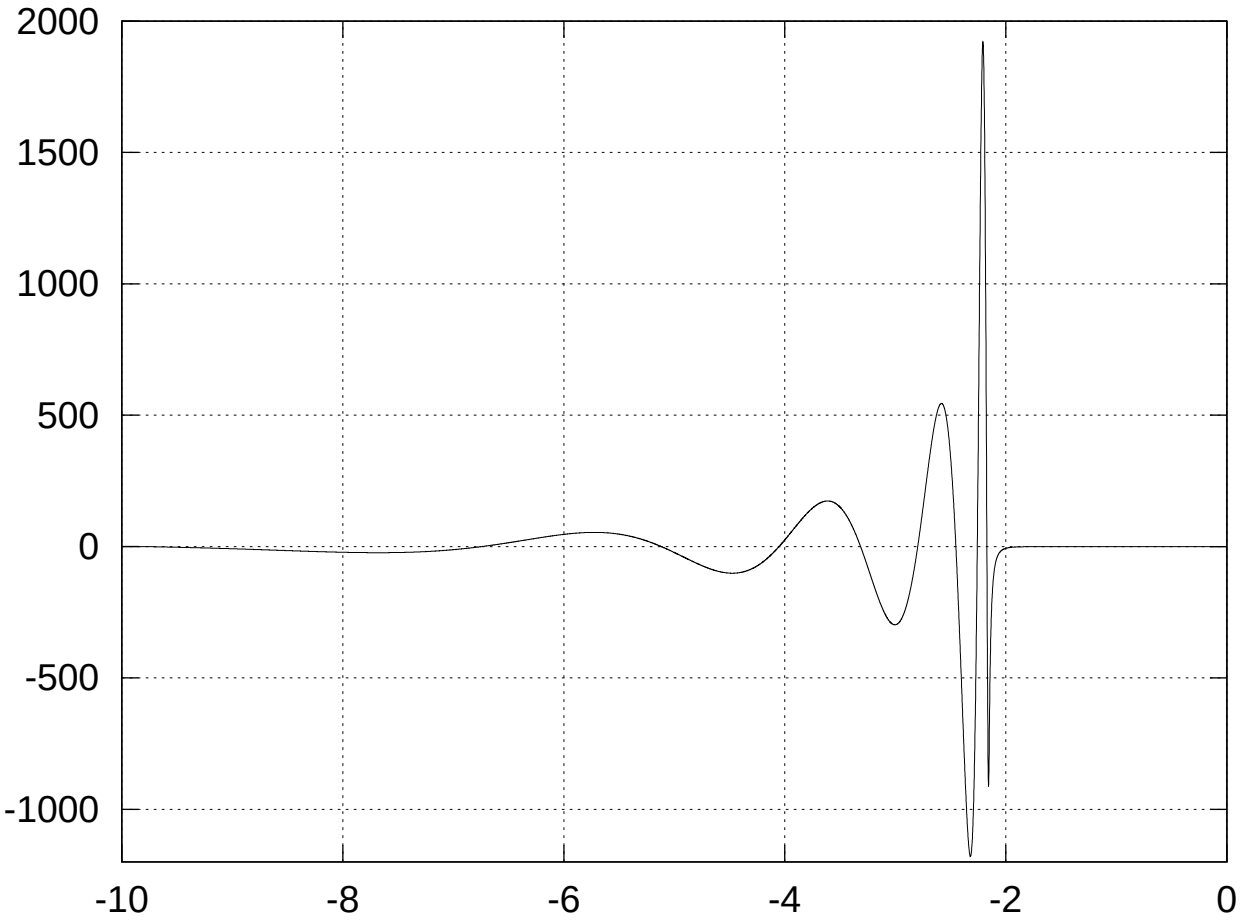Frank-s sources, passive and active wave