# Results of tests

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The motive of the project was to understand the effects of RK23 and RK34 and the different time stepping methods and how they work with stiff equations in case of CS Amplifiers. The stiff equation situation is reached when the frequency of i(t) is close to cut-off frequency.

The following graph shows how the different time stepping methods work at different frequencies of i(t).

i(t) is change proportionally. This means that if rise time was 1ns and then the signal stayed up for 9ns, then it was changed to 0.1ns rise time and time it was up was 0.9ns.

From the Graphs above, it can be clearly seen that Constant E.h and O(h) Time stepping methods have been closely able to follow i(t) from 0.3ns to 2ns rise time of i(t). However, they cant follow at 0.1ns and hence that is the cutoff frequency.

Bisection is however unstable in all these rise times and hence shows that it performs very bad in case of stiff equations.