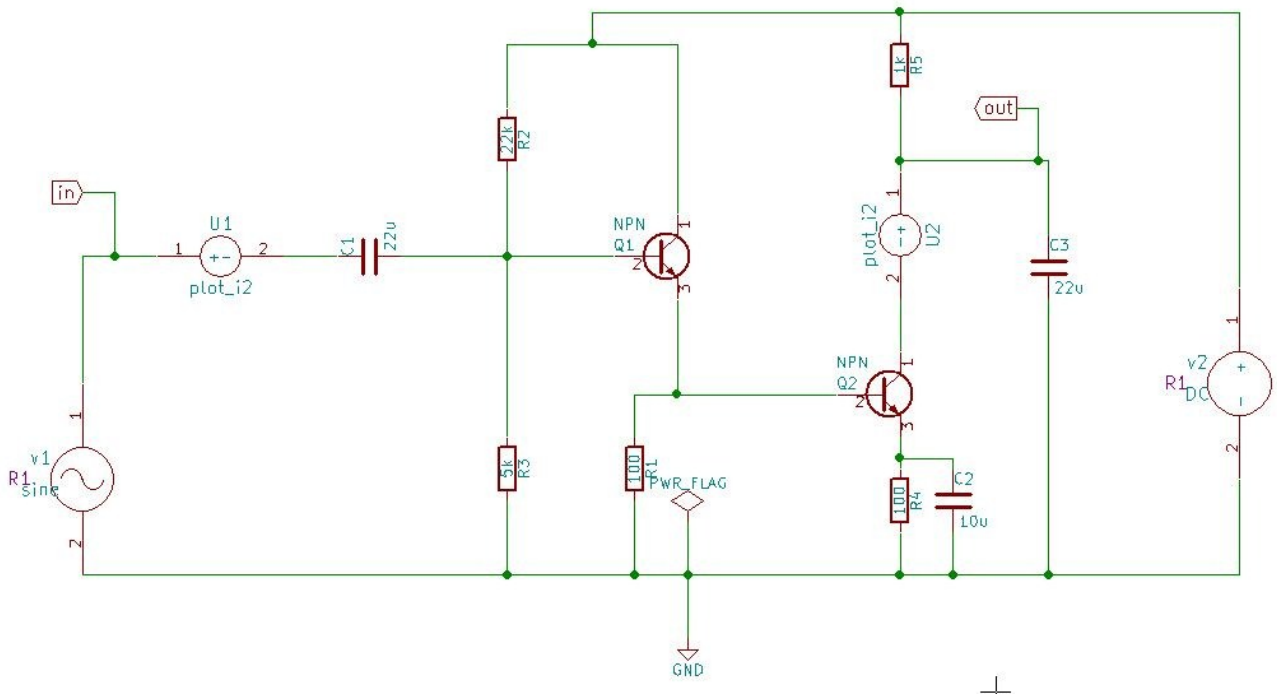
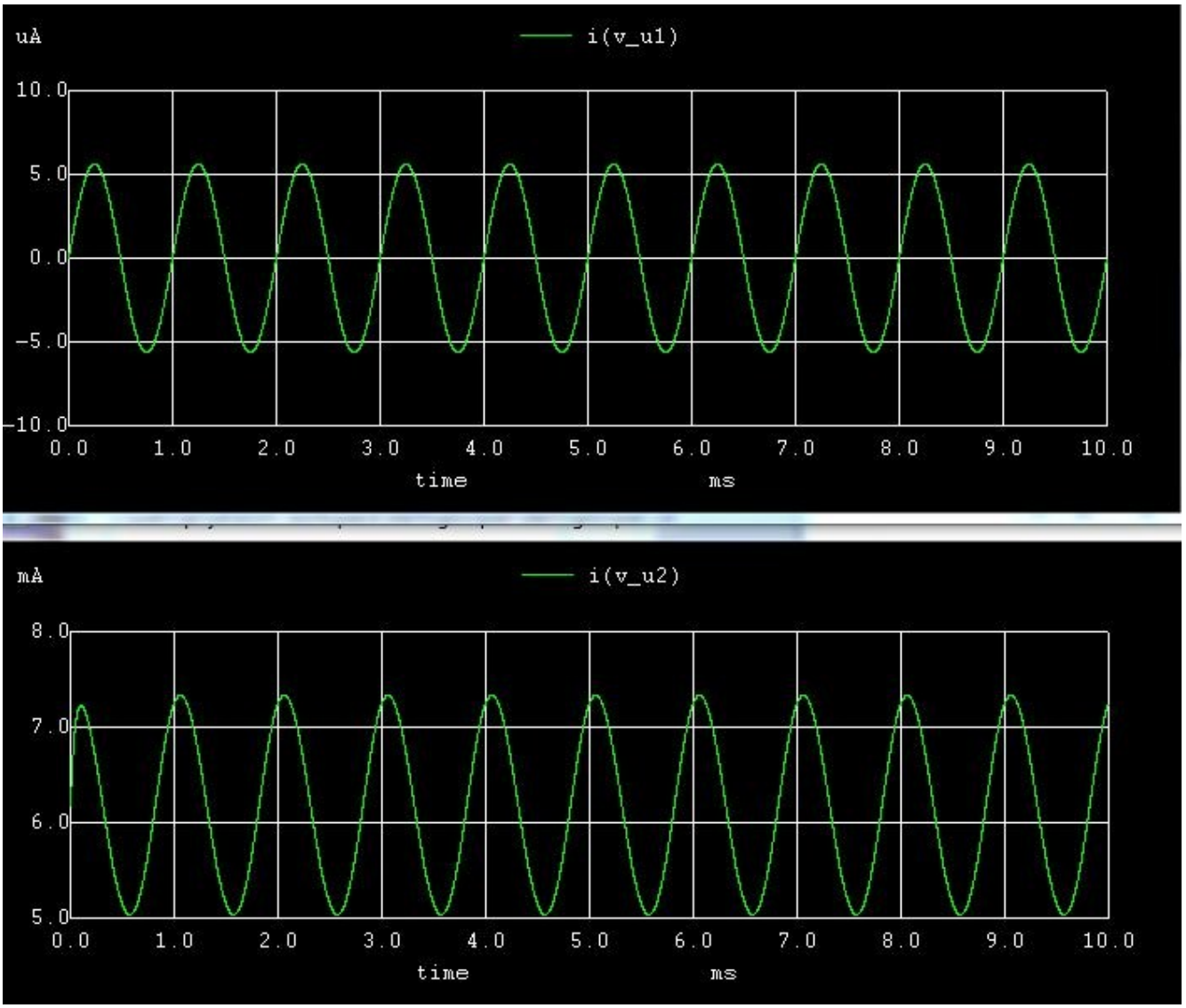
DARLINGTON AMPLIFIER USING BJT

CIRCUIT DIAGRAM:

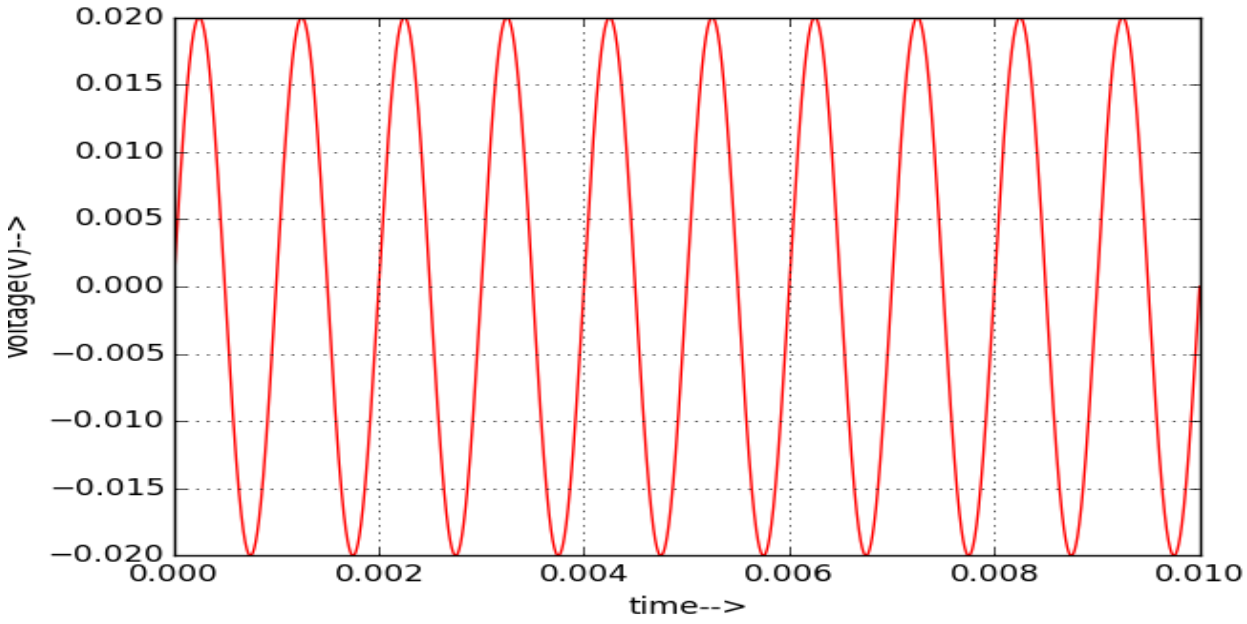


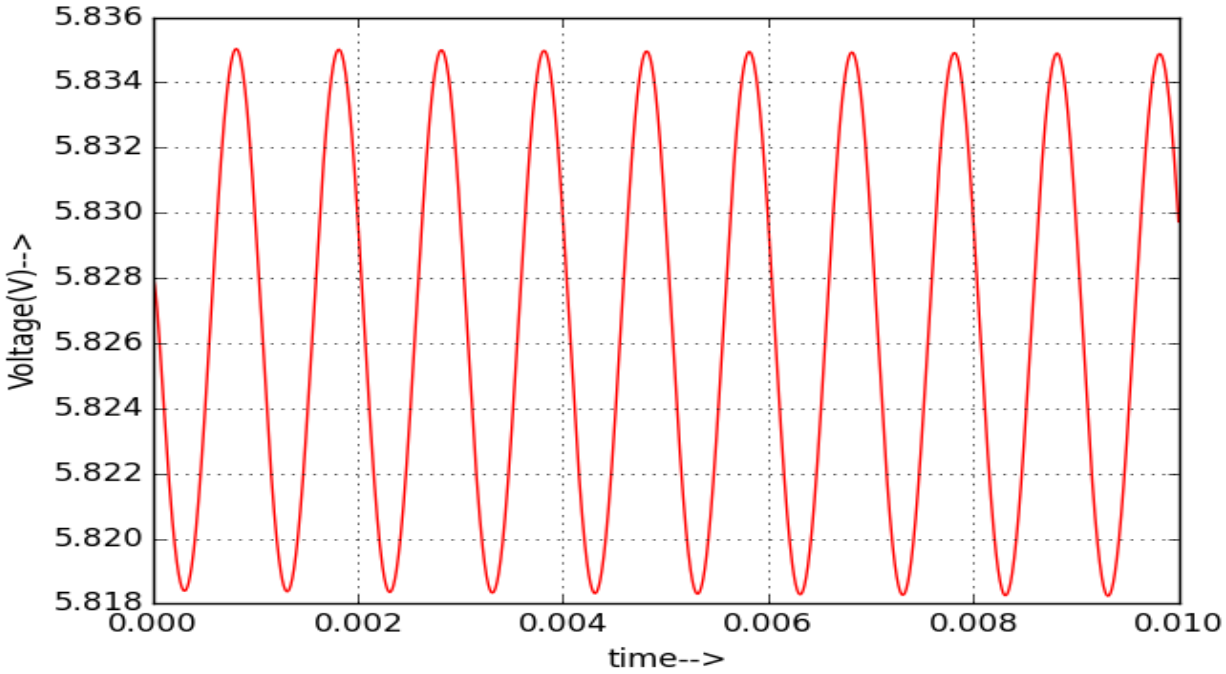
THEORY: The Darlington transistor (often called a Darlington pair) is a compound structure consisting of two bipolar transistors (either integrated or separated devices) connected in such a way that the current amplified by the first transistor is amplified further by the second one. This configuration gives a much higher current gain than each transistor taken separately and, in the case of integrated devices, can take less space than two individual transistors because they can use a *shared* collector. Integrated Darlington pairs come packaged singly in transistor-like packages or as an array of devices (usually eight) in an integrated Circuit. The Darlington pair transistor circuit configuration can be very useful in electronics circuit design.

MODEL WAVEFORMS:



Ng-Spice plot





Python plot

REFERENCES:

https://www.researchgate.net/figure/Schematic-diagram-of-the-conventional-Darlington-pair-amplifier_fig1_301868840

https://www.electronics-tutorials.ws/transistor/darlington-transistor.html