# Window Comparison

1. HP:
   1. Advantages:
      1. Symmetric Behaviour
   2. Disadvantages:
      1. Does not describe the real non linearities of the memristor.
2. Joglekar:
   1. Advantages:
      1. Similar to rectangular window function.
      2. Boundary conditions are simple. f(0) = f(1) = 0
      3. State variable function will approximate the linear drift function when p<=5.
   2. Disadvantages:
      1. State variable may cling at the boundary where it is difficult to change because of the 0 value of the window function.
3. Biolek:
   1. Advantages:
      1. Most commonly used SPICE model.
      2. Designed to overcome Joglekar's boundary problem by using sgn(-i) which gives different values at approaching and receding boundaries.
   2. Disadvantages:
      1. Continuity condition at the boundaries.
      2. Multivalued function; harder to analyse.
4. Prodromakis:
   1. Advantages:
      1. Is scalable and includes HP’s window function as a special case.
5. Piecewise:
   1. Advantages:
      1. Continuously differentiable and made up of 3 nonlinear pieces.
      2. A single valued function between the memristance and charge can be obtained, making analysis simpler.
   2. Disadvantages:
      1. Certain conditions to ensure continuous differentiability.
6. TEAM:
   1. Advantages:
      1. Designed to fit the behaviour of Simmon tunnel mode barrier.
      2. Two functions for ON and OFF switching that don’t have to be equal.

