

Tread Position

Both positive and negative positions must be detectable. The accuracy of measurement is important for good position detection. Two ways are possible to deal with the problem. You can either force the distance to stay constant or the time interval to stay constant.

Constant (Discrete) Distance:

With constant distance, you must wait until both wheels have gone at least some minimum detectable distance before you can make any calculations or use the information collected. This can be terrible if you happen to be moving extremely slowly. (If one side hasn't moved a detectable amount and the other has moved a considerable distance, the assumption that one side hasn't moved at all is acceptable.)

Constant Time:

If you have the option of detecting continuous distances, then this is probably the best assuming the sampling occurs frequently enough. I cannot think of any problems to overcome using this method.