Reviewer comments

Fernandez-Vazquez et al. conducted a study that sought to identify any differences in gait between individuals with multiple sclerosis (MS) and controls, in which the individuals with MS had relatively low disability scores as determined using the EDSS. They recorded movements using an infrared motion capture/tracking system, and extracted a series of spatiotemporal gait features. They additionally used statistical parametric mapping (SPM) to compare trajectories of gait cycles in individuals with MS and controls. They found that, although spatiotemporal features failed to capture differences between groups, the SPM-based method was able to capture distinctions in the MS group. These included various changes in movement patterns in the pelvis, hips, and ankles.

Overall, I find this paper to be well-written and interesting. It is appropriately concise, and implements a novel use for SPM to good effect. I have a few minor suggestions to improve this article, itemized below, after which I would recommend it for publication.

1. At lines 94-95: “presence of other comorbidities…” etc. is listed as (4) in the inclusion criteria, but I think this is meant to instead be listed as exclusion criteria?
2. At lines 125-126: Why did the controls do 100 gait cycles total instead of 100 per leg with randomization (i.e., 200 cycles total)?
3. Line 129: “cycle in when occurs the foot off (%).” This wording is slightly awkward, I would recommend rephrasing.