Comments on "Statistical characteristics of raindrop size distribution during rainy seasons in Beijing urban area and implications for radar rainfall estimation", by Ma et al., submitted to Hydrology and Earth System Sciences.

The authors present a well-designed study of DSD over a dense urban area. The results can advance our understanding of rainfall microphysics and improve radar QPE in urban areas. There are some places in the manuscript that need further clarification, but other than that, this is a well-written paper and can be accepted after revision. My specific comments are listed below (not necessarily in order of importance).

Specific comments:
1) Please explain the meaning of $\log_{10}N_w$ and D_m on their first occurrence.
2) The Introduction needs to be further strengthened. It seems that this study only differs from previous studies simply through using a long-term dataset, as can be inferred from the current version, which is actually not.
3) I would suggest not to mention "local microphysics" in P2, Line 4, as apparently this present study does not provide much interpretation of rainfall microphysics. The main objective is for better characterizations of DSD in urban region and potential improvement for radar QPE.
4) P1, Line 21, what does "UHI up stage of a day" mean? Please clarify.
5) Since there is a dual-pol radar collocated with the disdrometer, I wonder how the dual-pol radar fields are utilized in this study. The dual-pol fields used in this study are simulated using the T-matrix method. How accurate is the simulation?
6) Hail contamination remains a challenge for radar QPE. However, this is how dual-pol radar can surpass conventional radar (using the KDP field). It seems strange to me that the authors remove hail from all their records, as this will degrade the significance of their study. Please justify.
7) The threshold of 5 mm/h for separating convective and stratiform rainfall is small compared to previous studies. Please justify.
8) Please remove the texts P7, Lines 9-12. They can be moved to the caption of Figure 5. Similarly for P9, Lines 4-6.
9) Figure 5, caption, what does "shallow events" mean? Please explain.
10) Figure 5 and texts, I'm not sure if it is reasonable to compare this study with previous studies, as clearly this study present climatological features of DSD, while the referenced studies seem to be event-based.
11) I would suggest to present frequency distribution of rain rates among different UHI stages, along with DSD parameters in Figure 9. As the authors explained differences of DSD parameters for different rain rates in previous section, differences of DSD parameters among UHI stages might be simply due to rain rate differences. This suggestion also applies for the analysis of seasonal cycle in section 3.5.
12) Grammar and wording need double check. There are some typos throughout the manuscript, for instance, "P1,Line 34, warn should be warm", etc.

Long Y.