Does the article contain significant new results or theories and does it reflect sufficiently high scientific standards to warrant its publication in AAS Journals?

IN AM SOUTHING? The article discusses the identity of 305 IMBM candidates using mining data in wide-field My surveys (EDSS ER7), archival, and follow-up observations. Among these 305 IMBM candidates, they confirmed the AGN nature of 10 sources; including five previously known AGMs and five new targets by support the supermassive black hole seeds accessive formation from the population III. This finding is interesting and consistent with few recent investigations using different methods.

The data reduction and analysis are solid and make a convincing case for the presence of 10 HBHs out of 305 ADM candidates from SDSS DNP survey. The authors are very clear in making assumptions that are itsely to significantly affect their conclusions. They also take the to the implications and limitations of their choices. This is very appreciated.

However, I have a few comments and suggestions raised in this report. Once the authors address all of those, I will suggest the article a merit of publication.

Is the paper written with the maximum conciseness compatible with accuracy and clarity?

Yes, most of the text is well written, accuracy and concise. However, there a few parts that are still not clear and I wish the author will rewrite those parts in a better clarity. I include these specific issues in the report below divided into two categories of major and minor issues.

J. Could the order or presentation or English be improved? Editing of English and typographic errors will be corrected by the Journal copyediting staff and you do not need to specify these in your report. But if there are nore general problems with presentation or English please cite this in your report.

I will have no comments on these issues. I suppose the Journal copyediting staff will take care all of these after the article is accepted.

4. Would the article be more appropriate for the Supplement Series? That series is recommended for long papers, for compilations of relatively uninterpreted data or models, and for manuscripts with a very restricted readership.

5. Do you have any comments or criticisms that may be helpful to the author(s) to improve or correct the paper? Are units, object designations, equations, and notation complete and correct? In cases that may be ambiguous, please specify whether you consider the suggested changes to be mandatory for publication or advisory.

No. I don't.

6. Do you think that it is necessary for you to see the revised version of the manuscript? $v_{\text{ex. }}$, τ want to see the next revised version of the manuscript definitely!

I) Primary comments:

..., commutat 1) In the fourth paragraph of the introduction section, the authors argued a few reliable mass estimate method to determine the masses of IMBH candidates including (i) the section fymmics and pulsar timing, (ii) the agreement of low luminosity of AGN in optical and X-ray observation in durf galaxies.

Recently, Ryyon et al., (2017) reported the precise stellar dynamical constraint on the central black hole mass of the many low-mass sarily of Solar masse. They also found a strong evidence for the existence of IMBN via AGT continuum variability on decades timescale and nucleus via AGT (continuum variability on decades timescale and nucleus existence of the solar decades the state of the solar solar observations (co., ViA, AMBA, Spitzer, HST, Chandra to exam the turbient central engine of the low-mass AGN of this galaxy and confirmed the presence of the IMBN.

presence of this IMMM. More measurements in the low-mass hots and million/sub-million Solar masses IMMS also reported in Nguyen et al., (2018) for MID, NGC 5102, and NGC MIDMS also reported in Nguyen et al., (2018) for MID, NGC 5102, and NGC fraction of IMMM in a small sample of nearby, low-mass, and early-type agalaxiesy which is as high as 90%. They then argued the formation origin for these MSME seeds is likely from the dead remants of the Pep. III stars. Mat Nguyen et al., (2018) found is consistent with the result presented in this paper. The authors should consistent with the result existence of nuclear IMMMs augusts the stellar mass seed scenario of the massive black hole formation.&C

So, I suggest the authors should consider separating the item (ii) the stellar dynamics and pulsar timing into two different categories.

() The suthers presented the selected riteris to rule out the purious of the second second second putch the second second second second conditions, Boost, and a second second

... ... A.1 48eMo night sky sirglow lines falling in the regions around Halpha+[W II], [O III] 5007A, and Hbera 4861A, which we use for the spectral line profile fitting and decomposition. As How did the authors visualize the spectra, e.g., by eyes, emission profiles, or fitting?

2.2) &GemEmpirical constraint that the width of the broad line component is at \sqrt(5) times larger than that of the narrow line component.&E Why \sqrt(5)?

2.3) SGWTHE BET classification is SGWAGNES or AGMCOMPOSITIESE (Kewley et al. 2006), that discards star-forming galaxies because broad line components in them are often transient (Baldassare et al. 2016).8E Did the author keep objects classified as AGM or composite only?

2.4) áGwThe Halpha/Hbeta Balmer decrement for both narrow and broad line components < 4.86 Why 47 not 3 or 27 It might need a citation here, mighthãert it?

2.5) &Ecw|vBLR - vNLR| < 3sigmaNLR to reject strongly asymmetric BLR profiles.&E Why is the asymmetric BLR profile matter?

3) In subsection 4.4 and Figure 8, the authors discussed their IMEM masses and host galaxy properties to the recent compliations of bulge/spheroid masses of host galaxies of massive black holes. These host galaxies have provide the state of the state of the state of the state of the galaxies sample of Myyen et al., (2019). It would be interesting to plot Myyen et al., (2019) sample in Figure 8 as well. I believe their sample will fill the gap between the TMMME (big red and green filled stars) and the Grahme et al., (2019) sample (blue and green filled dots).

4) In subsection 4.4 entitled, &@aImplications for co-evolution of central black holes and their host galaxies.& The authors argued at the beginning of the second paragraph that. &BGallay nergraves were frequent when the al.2006 Lotr et al. 2011,Her, Therefore, JMBH bot galaxies must have experienced very few if any angle margers zero their lifetime. &It may loss the discussion flow, but the last sentence seems a contradiction to the first cost? Do the authors seem because their JMBH arg uplot low mass, the host galaxies have lifetime is their inferience as their margine country.

5) Issues with figures 382"6; ..., The obtained its of the plot and the captions is to for the array of the obtained its of the plot and the captions is the in gay ..., and the plot of the lower profiles are residual but it is not clear for the meaning of the upper and lower bound lines? ..., the non-parametric narrow line models (righteost panel) are not explained sufficiently. Currently, I do not understand these panel plots and what are their purposes for? Planes give more explicit text.

6) If it is possible, at the discussion of subsection 4.1, I would like to see the BFT diagram that plots all 10 targets with strong detection evidence of HUMES, the parent sample of 305 KMRs (e.g., blue dots), and almost one million background targets (e.g., grey dots) from the SDSS DR. For the 10 AMRs with strong detection evidence of JMMss, the author could plot them in two different color and/or symbols to separate the new semedipitously discover targets and the Bedshon floidet targets.

7) The authors emphasized the most dominated error budget of their IMBHs search and masses estimates method in subsection 4.3. Should the author be more explicitly for any other error sources that possibly affect their IMBH mass estimate method? If there are no others, please clarity!

" II) Minor comments and suggestions:

117 mine commute and suggestions: 110 fathe second paragraph of the introduction section, I found the following sentence, & Bergopulation III stars might have formed in dense clusters in princidial density fluctuations, which could then evolve into mean 2004, BC deem to follow the danagestic for the second second mechanism in the Early Universe. I suggest the authors should neve this sentence scome/are earlier in the paragraph, e.g., at the point water the subtor metions the stally many subjects (seeds (< 100 Sour masses).</p>

2) In the third paragraph of the introduction section, the authors mentioned the UMBH mass estimate for NGC 4395, a dwarf galaxy with a total stellar mass of -a few billon Solar masses. They guoted this IMBH has a mass of three hundred thousands Solar masses. I suggest the author should mention and cite the recent dynamical result for this IMBH mass estimation

from the warm hydrogen molecular IFU spectroscopy of Gemini/NIFS reported by den Brok et al., (2015).

3) I may be lest in the discussion flow, but in subsections 2.1 and 2.2, the authors provided many numbers that are relative to the total optical spectra taken from SDS EOF 30 the input sample including 1,000,000 galaxies + quasar spectra (subsection 2.1) and 938,447 galaxy spectra of 873.138 migres objects (subsection 2.2.1 and bow does this number 1,000,000 in the subsection 2.2.1 and how does this number relate to the other two numbers in the subsection 2.2.1 relase clarify!

4) The authors presented the criteria of sample filtering for the feasible IMBE condidates from the input sample in the subsection 2.3, and they have paragraph of the subsection 2.1. This causes a hard time to follow for me (and maybe other readers as well) at the first read when 1 was at the subsection 2.1 and have not yet come to the subsection 2.1. The better idea is to guide the readers to these selection criteria by informing them that the authors will discuss these detail criteria in decima 0.3, for example.

5) In the second paragraph of subsection 4.1, the authors used the acronym IAU without spelling it out. Please define or spell it out there for the first time!

6) In subsection 4.1 at the final paragraph, the authors estimate the total stellar masses of the parent sample based on the Two-dimensional Bulgerlisk Decompositions (DIMED) of Siman det al., (2011). The subtract abuild be and a de Yaucculeurs bulge (Sersic index n = 4) for the galaxy image models.

7) In Figure 7, the authors show the orange star in each panel plot without explanations either in the text or in the figureAETS caption. I would appreciate that if the authors will nicely give some explanations to make the reading to be more transparent.

8) The last sentence of the fourth paragraph in the subsection 4.4, the authors argued their exact fraction of actively accreting IMBHs is unknown, but it is smaller than that of more massive black holes. Could the authors please provide a quantitative number?