The main motivation of the paper «Measuring growth from outer space» is to offer the alternative mechanism to evaluate GDP. Namely, the authors offer the proxy for economic activity: the amount of light that can be observed from outer space. The main intuition behind using it as proxy is as follows. Intensity of lights reflects outdoor and some indoor use of lights. More generally consumption of nearly all goods in the evening requires lights. As income rises, so does lights usage per person, in both consumption activities and many investment activities.

The problem with standard approach occurs because of 3 main issues. First, there are detected constant errors in measuring GDP by conventional methods. Second, in most countries GDP numbers are not available on any consistent basis at the substantial level. Third, it is interesting to look at growth within the county, comparing different regions, which is impossible due to aggregate nature of GDP.

Personally, I will definitely admit this paper to AER. It is really not trivial idea to search for the necessary data not in the bureaus of national accounts but to find the external one. As the results of the paper show this measure is a fairly good proxy for GDP, however sometimes it underpredicts the extent of measured declines.

Being not an exception, this paper has its shortcommings.

First, authors claim that one of the main advantages of their analysis is the fact that lights is a good proxy, because it allows to measure GDP on subnational level and thus compare regions, which is impossible within the conventional GDP because of its aggregate measure. Bickenbach et al. (2013) in their paper «Night Lights and Regional GDP» assess the stability of the elasticity of GDP with regard to night lights across regions in Brazil, India, the United States, and Western Europe. The relationship between regional GDP and night lights proves to be unstable, not only where regional GDP data may be unreliable but also where such data are of high quality. This suggests that night lights tend to be a poor proxy of regional economic activity. Thus, it is interesting to try to replicate some results of their paper or just take original data[1] and test regional effects in other countries.

Second, the original data includes various controls, which have not been included in the original paper and which may have had influence on GDP, thus decreasing the magnitude of the relationship between economic growth and lights. They are amount of population, continent, external debt, land area.

Third, the original methodology is great while it includes fixed effects, time trends, clustered errors. One more specification for robustness may be to use multi-way clustered errors, while the source of variation may be not only country but also year (if we assume spatial correlation).

Summing it all, it is planned to check robustness on the regional level, because authors gave the readers promissing expectations which seem to be not true. Moreover, adding some controls and changing specification may influence the initial results and should be taken into consideration.

[1] http://ngdc.noaa.gov/eog/