
This paper makes reasonable assumptions on noise, and identifies a new noise random variable, termed Rayleigh-normalized Gaussian (RnG). The rigorous analytical development of the closed-form probability density functions (PDF) for both noise amplitude and power are pursuits, which is to address the trending behavior of the combiner. The reviewer has the following concerns:

1. The author should compare the work with the state-of-the-art works?
2. The author should clarify why Rayleigh-normalized Gaussian is chosen for the noise distribution?

Neat work and well written: this paper is nice to read.

Minor comments:

- Sec. I: Are received signals "essentially" analog in nature?
- Sec. II: The introduction of variable j is somewhat dispensable.
- Sec. II: M does not indicate anything. The statement should be: There is a SNR improvement if there exists a subset M which satisfies the condition (1).
- Sec. III: σ_s is not introduced.
- Fig. 2: The plots would look nicer if more evaluation points would be incorporated.
- A short description of related work for this specific scenario would be nice.

The paper describes fusion of many noise-corrupted sources of a signal under unknown channel gains and no knowledge of the transmitted signal, which is a very challenging task. The motivation for the problem comes from numerous recordings of a single musical performance, which are to be fused. It would be interesting to see also other examples of other applications of the proposed technique. There are some minor corrections that should be made such as proofreading (e.g. multiple occurrences of "Guassian"), references to equations denoted by numbers in parentheses.