Dear Editor,

we are excited to submit the manuscript titled "Monitoring forest health using hyperspectral imagery: Does feature selection improve the performance of machine-learning techniques?" to the "Remote Sensing" journal.

The usage of hyperspectral data brings many possibilities in large-scale monitoring of forest health.

One can extract hundreds of features from such data which can then be used in a high-dimensional modeling context. However, dealing with this high-dimensionality is non-trivial.

By making use of filters and ensemble filters, we present a way how such high-dimensional datasets can be efficiently used with machine learning models.

In addition, we show how a model-agnostic permutation-based filter importance can be used to extract features which had the highest impact on the final models.

This is done in a use case where we modelled defoliation in forest stands in northern Spain which are affected by pathogens.

We believe that this manuscript is a good fit for the "Remote Sensing" Journal and scientists focusing on using machine learning efficiently with remote sensing data.

We confirm that there are no other submissions of this manuscript at other journals currently and no prior submissions to other MDPI journals.

A preprint of the manuscript has been published on [Techrxiv](#).

On behalf of the authors,
Patrick Schratz