RDM — From Theory to Practice
A showcase

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Abstract

This document is part of the RDM showcase. This showcase was presented by Jakob Harden in the course of an invited talk at FELMI-ZFE (Graz University of Technology) on 2023-03-31.

1 Data set

First, we plot the signal data for both signals. Signal magnitudes are plotted within the time domain limits $t = [0, 6.2832]$ using 50 data points. See figure 1. The geolocation where the signals were recorded is $[47.0575, 15.4569]$.
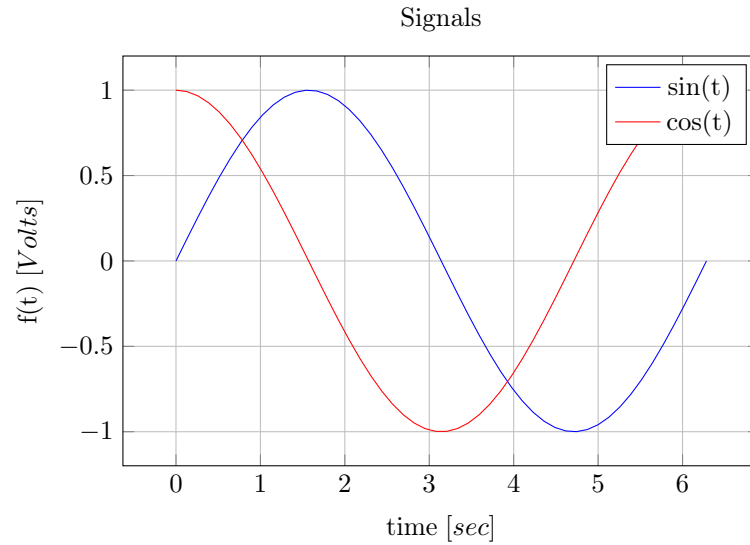

Figure 1: Signals: sine and cosine

2 Analysis results

In the course of the analysis, the function magnitudes of both functions were scaled and shifted using the parameters from table 1. Therefore, the function magnitudes changed. The result of that transformation is reflected in figure 2. The transformation algorithm's name is **Scale and shift algorithm** and it's version number is **1.0**.

Signal	Amplification a	Shift s
sin(t)	0.8	0.1
cos(t)	1.1	−0.2

Table 1: Transformation parameters

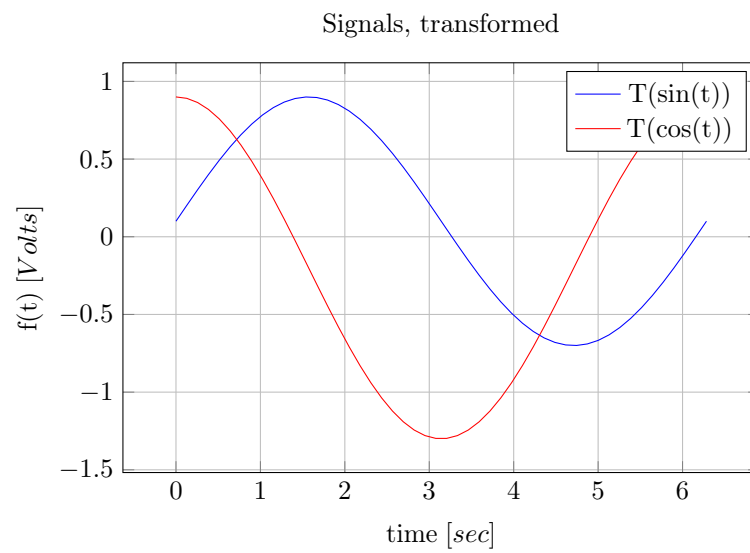**Algorithm:**

$$T\left(f(t)\right) = \left(f(t) \cdot a\right) + s \tag{1}$$

Figure 2: Transformed signals: sine and cosine