

# CHAPTER 1

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## Garamond, Bera Sans, Luxi Mono

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The text on these pages demonstrates the appearance of the used fonts for serif, sans serif, math and typewriter fonts. The font(s) used in this document are *Garamond*, *Bera Sans*, *Luxi Mono*.

### 1.1 About

This document uses the LaTeX template hosted at

<http://foundry.supelec.fr/gf/project/latextemplate/>.

The fonts for this document are loaded with

```
\renewcommand{\rmdefault}{ugm}      %% --- URW Garamond
\renewcommand{\sfdefault}{fvs}      %% --- Bera Sans
\usepackage[garamond]{mathdesign}    %% --- Garamond (Math)
\usepackage[scaled=0.85]{luximono}  %% --- Luxi Mono (Typewriter)
```

### 1.2 Plain text

The following paragraph is text taken from <http://www.blindtextgenerator.de> to show the appearance of the text. It is a text without any meaning translated from the original german text into english text.

Far away, behind the word mountains, far from the countries Vokalia Consonantia and live the blind texts. Separated they live in Bookmarksgrove on the coast of the Semantics, a large language ocean. A small river named Duden flows by their place and supplies it with the necessary regelialia. It is a paradisematic country, flying in which roasted parts of sentences in the mouth. Even the all-powerful Pointing the blind texts be mastered - an almost unorthographic life. One day however a small line of blind text by the name of Lorem Ipsum decided to go out into the grammar. The big Oxmox advised her not to, because there were thousands of bad Commas, wild Question Marks and devious Semikoli, but the Little Blind

Text did not listen. She packed her seven caps, put her initial into the belt and went on his way. As the first hills of the Italic Mountains, had reached, it threw a last glance at the skyline of her hometown Bookmarksgrove, the headline of Alphabet Village and the subline of her own road, the Line Lane. Pityful a rethoric question ran over her cheek, then continued on his way. The road she met a copy. The copy warned the Little Blind, where she came from it would

### 1.3 Math formulas

These math formulas are taken from [wikipedia.org](https://www.wikipedia.org). They show well known formulas used in math and physics.

#### 1.3.1 Green's theorem

$$\iiint_V [u \nabla^2 v + (\nabla u, \nabla v)] d^3V = \oint_S u \frac{\partial v}{\partial n} d^2A \quad (1.1)$$

#### 1.3.2 Jacobian matrix

$$J_f(a) := \frac{\partial f}{\partial x}(a) := \frac{\partial(f_1, \dots, f_m)}{\partial(x_1, \dots, x_n)}(a) := \left( \frac{\partial f_i(a)}{\partial x_j} \right)_{i=1, \dots, m; j=1, \dots, n} \quad (1.2)$$

### 1.4 Tables

The following table lists some properties of the material *fused silica*.

**Table 1.1:** Properties of fused silica

description	property
density	$\rho = 2.2 \text{ g/cm}^3$
heat capacity	$c_p = 703 \text{ J/gK}$
transmission	185 - 2500 nm