**CORRECTION**

# Correction to: Optimizing component solution spaces for systems design

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**Correction to: Struct Multidisc Optim**
https://doi.org/10.1007/s00158-019-02456-8

The original version of this article unfortunately contains mistakes introduced during the publishing process. The mistakes and corrections are described in the following list:

1. The typographical error in the reference "Daub M (2017) Konvexe Optimierung am Beispiel volumenmaximaler einbeschriebener Rechtecksmengen. Master thesis, Universität Konstanz, Germany, http://nbn-resolving.de/urn:nbn:de:bsz:352-0-420923" was removed.

2. The typeface of the following figures was adapted.
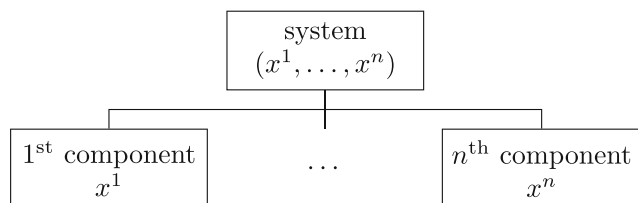


**Fig. 1** A system composed of $n$ components each specified by a design variable vector $x^k$, $k = 1, \ldots, n$

The online version of the original article can be found at https://doi.org/10.1007/s00158-019-02456-8

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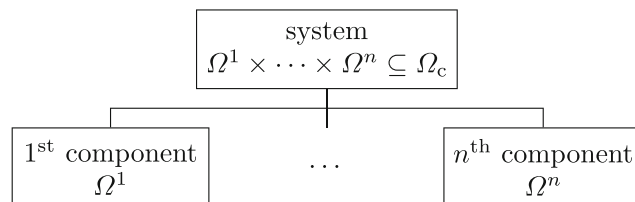[2] Queen Mary University of London, Mile End Road, London E14NS, UK



**Fig. 2** Decomposition of the complete system solution space into component solution spaces
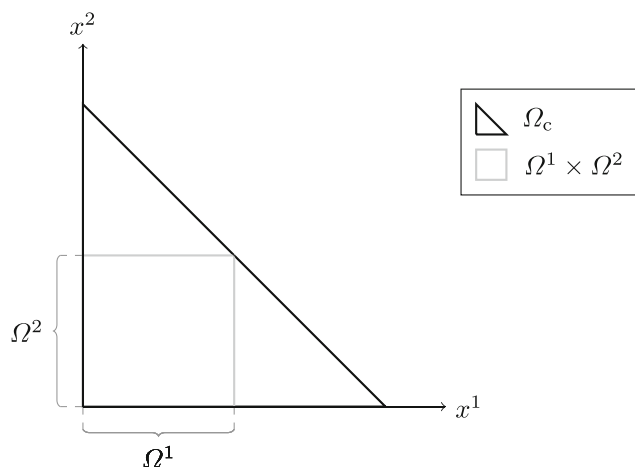


**Fig. 3** Example of optimal component solution spaces $\Omega^1$ and $\Omega^2$ for a system composed of two components with one degree of freedom each
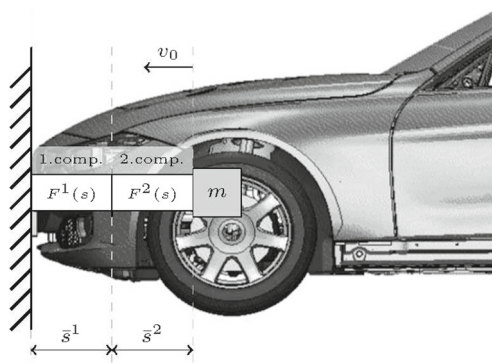


**Fig. 4** Vehicle front structure for the simple crash design problem with two components and force-deformation characteristics $F^1(s)$, $s \in [0 \text{ mm}, \bar{s}^1)$ and $F^2(s)$, $s \in [0 \text{ mm}, \bar{s}^2)$
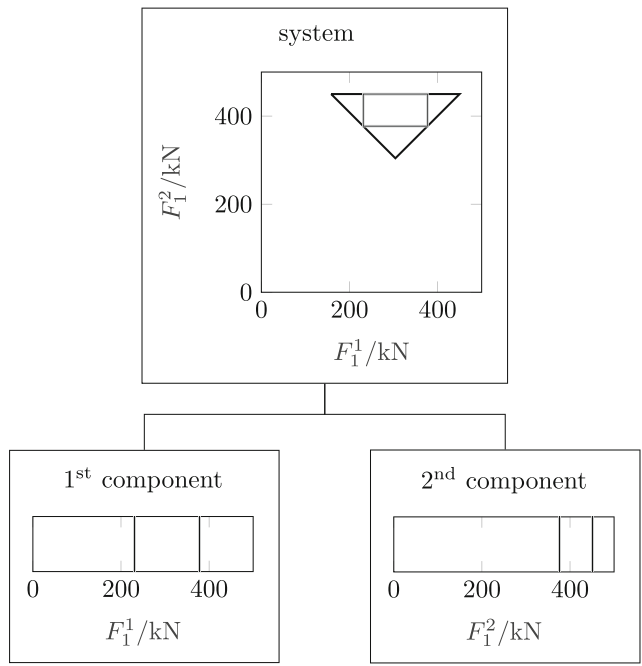
**Fig. 5** Decomposition of the complete system solution space $\Omega_c$ (thick black) for the simple crash design problem with $d^k = 1$ into $\Omega_{bs}^1$, $\Omega_{bs}^2$ (thin black) and $\Omega_{as}^1$, $\Omega_{as}^2$ (gray)

**Fig. 6** Decomposition of the complete system solution space $\Omega_c$ for the simple crash design problem with $d^k = 2$ into $\Omega_{bs}^1$, $\Omega_{bs}^2$ (black) and $\Omega_{as}^1$, $\Omega_{as}^2$ as (gray)
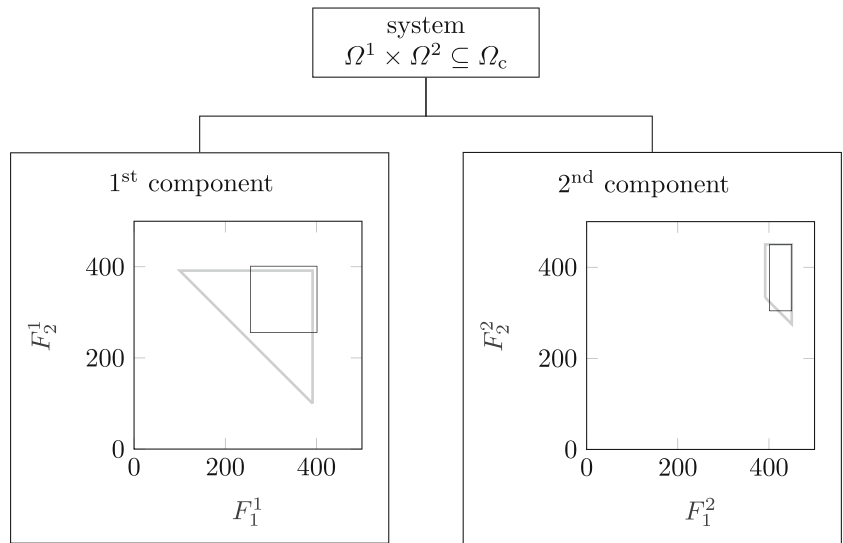
**Fig. 7** Component solution spaces $\Omega^k$ and their corresponding region of possibly permissible characteristics both bounded by solid gray lines for different $d^k$. Inside, there are permissible (white dots) or non-permissible (gray dots) force–deformation characteristics. Outside, they are always non-permissible (black dots)
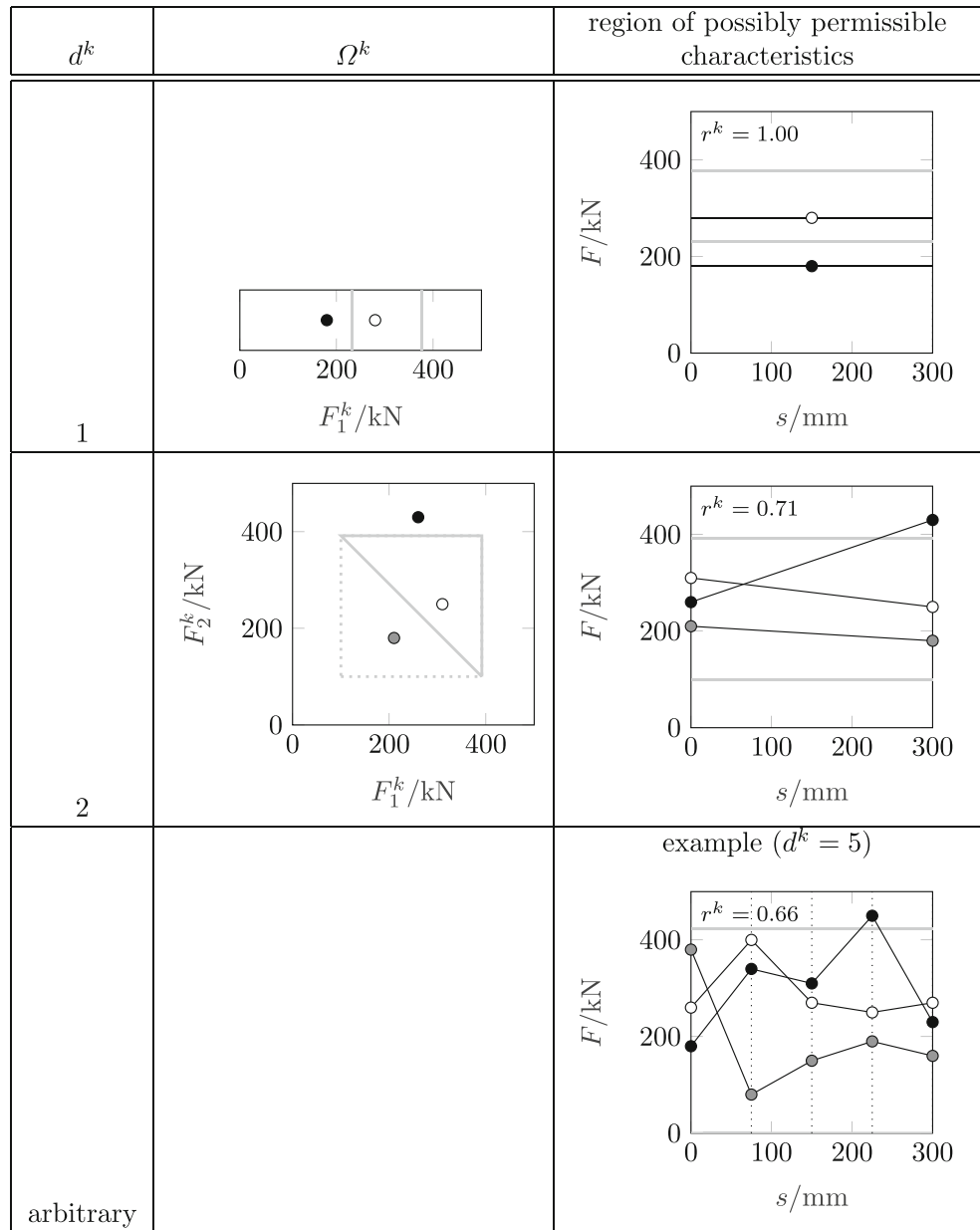
**Fig. 8** Total volume (left) and average edge length (right) of box-shaped (bs) and arbitrarily shaped (as) component solution spaces
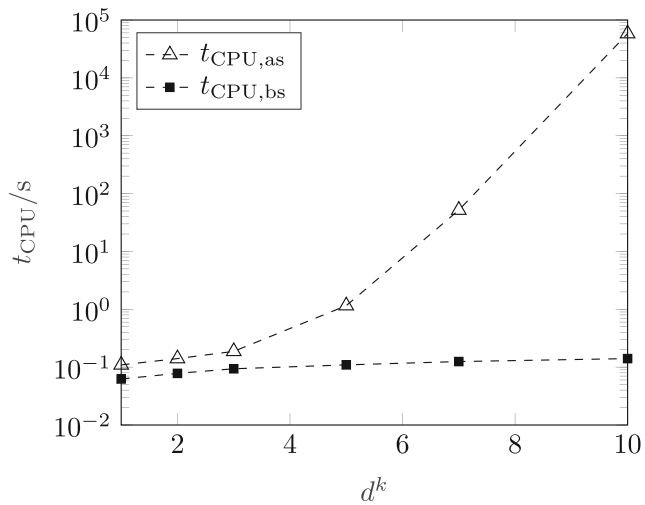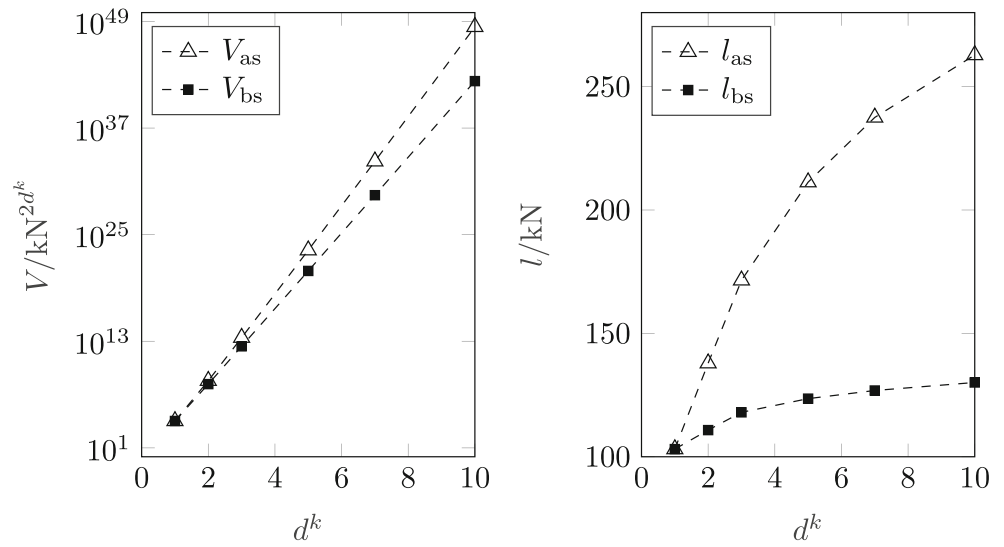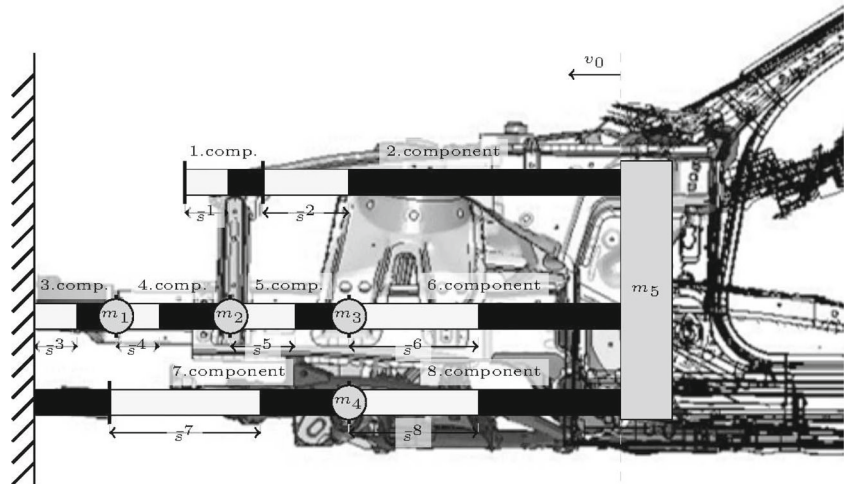




**Fig. 9** CPU time for Intel(R) Xeon(R) CPU E5-1660 v4 @ 3.20 GHz to calculate box-shaped (bs) and arbitrarily shaped (as) component solution spaces with analytically calculated volume

**Fig. 10** Vehicle front structure for the realistic crash design problem with eight components. The gray parts indicate deformable structure and the black parts non-deformable structure
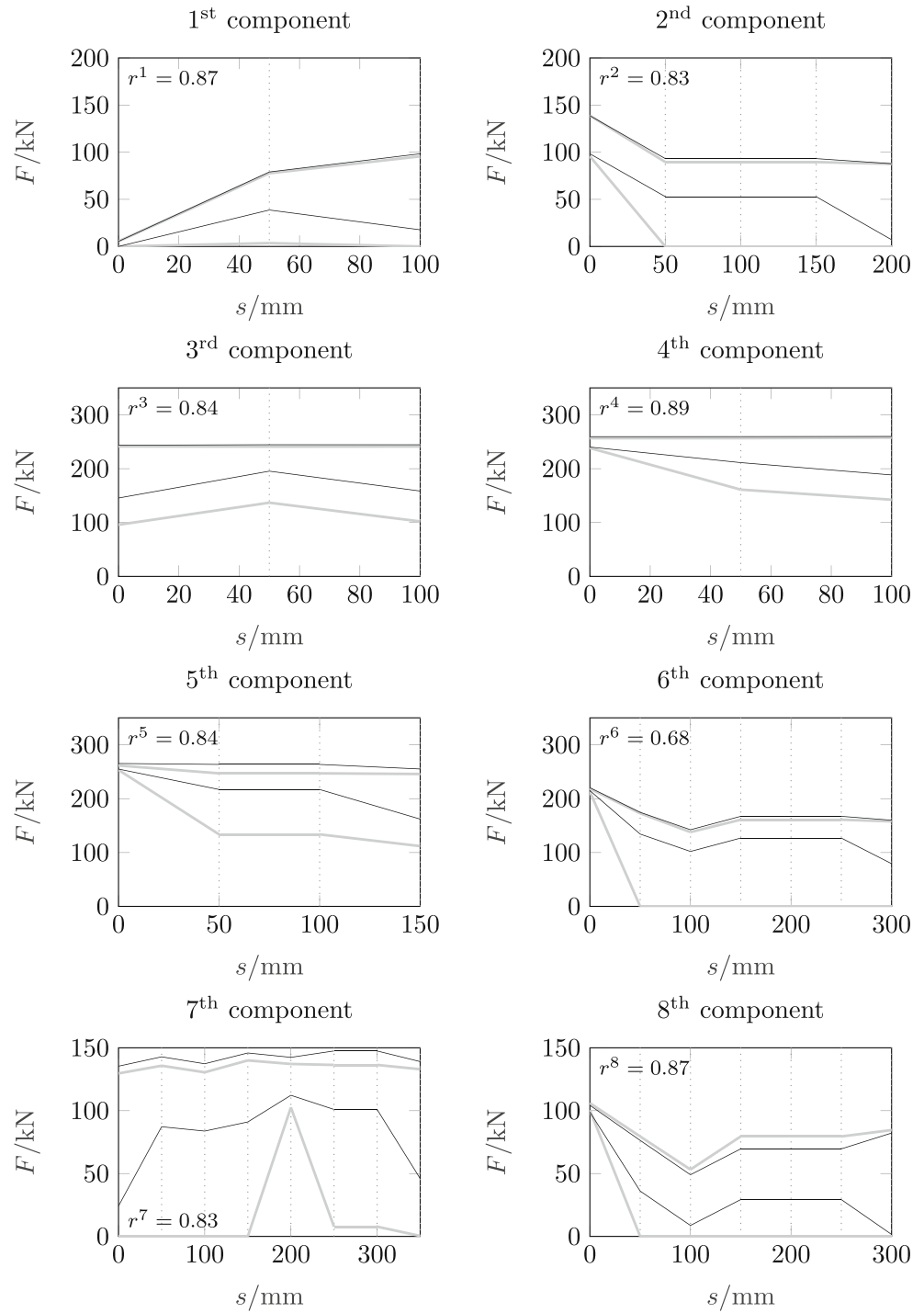


(a) Geometry space
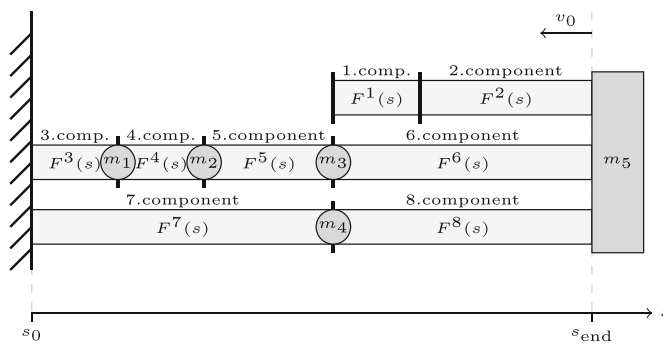


(b) Deformation space (stretched)

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