

# On Local Error Bound in Nonlinear Programs

Minchenko L. I. <sup>1</sup>,

Sirotko S. I. <sup>2</sup>

2021

1, 2 R&D Lab 6.2 «Software for applied information technologies»,  
Department of Informatics, Belarusian State University of Informatics  
and Radioelectronics, Brovki Str. 6, Minsk 220013, The Republic of  
Belarus

**Keywords:** Error bound, Necessary conditions, Sufficient conditions,  
Nonlinear programming

**Abstract:** Numerous efforts in the literature are devoted to studying  
error bounds in optimization problems. The existence of local error  
bounds is closely related with constraint qualifications. It is well-known  
that some constraint qualifications imply error bounds. We consider  
constraint qualifications, which do not impose as strong requirements  
on the structure of the optimization problem as traditional conditions  
do. On their base necessary and sufficient conditions of error bounds are  
derived.

**This article published in:** Minchenko, L. I., On Local Error Bound in  
Nonlinear Programs / L. I. Minchenko, S. I. Sirotko // Optimization and  
Applications. OPTIMA 2021. Lecture Notes in Computer Science. –  
2021. – Vol. 13078. – P. 38-49. – [https://doi.org/10.1007/978-3-030-91059-4\\_3](https://doi.org/10.1007/978-3-030-91059-4_3).

**Internet-link for the article:**

[https://link.springer.com/chapter/10.1007/978-3-030-91059-4\\_3](https://link.springer.com/chapter/10.1007/978-3-030-91059-4_3).