## Broadband satellite data networks : the aspect of solar fades in VAST networks / Jacek Łukasz Wilk-Jakubowski. – Kielce, 2022

## Spis treści

INTRODUCTION	5
1. ASPECTS OF THE USE OF VSAT NETWORKS FOR ENSURING BROADBAND INFORMATICS SERVICES	17
1.1. Research projects and works conducted at the Kielce University	10
of Technology  1.2. Theoretical analysis of the solar fade phenomenon	19 26
1.3. State-of-the-art and literature review	29
2. OVERVIEW AND PERSPECTIVE OF VSAT NETWORK	
DEVELOPMENT IN THE CONTEXT OF OFFERED SERVICES	36
<ul><li>2.1. Legislative and organizational requirements for VSAT networks</li><li>2.2. Topology of VSAT network</li></ul>	37 42
2.3. Next generation VSAT networks	52
3. TECHNICAL CONDITIONS OF THE VSAT NETWORK	59
3.1. Overview of the architecture of broadband satellite systems	59
3.2. Overview of the available protocols and digital satellite platforms	70
3.3. Quality of service (QoS) for satellite transmission	81
4. INFORMATICS SERVICES OFFERED WITH THE USE OF VSAT	
NETWORKS WITH PARTICULAR EMPHASIS ON THE INTERNET	00
<b>SERVICES</b> 4.1. Global evolution of satellite traffic	<b>88</b> 89
4.2. Overview of the Internet services in Poland and in the world	93
4.3. Systems for the provision of Internet services on the basis of VSAT	
networks	101
5. TIME ASPECT IN SOLAR FADES IMPACT ON THE BROADBAND INFORMATICS SERVICES IN THE CASE OF INTERNET ACCESS	
USING VSAT NETWORKS	114
5.1. Impact of the selected parameters of VSAT networks during	
the solar fade phenomenon on the access to broadband informatics	445
services 5.2. Tabular overview of the impact time of solar fade phenomenon	115
on the access to broadband informatics services using VSAT networks	
in the case of Internet access	123
5.3. Experimental data analysis and measurement procedure	
for nonadaptive systems providing informatics services	180
CONCLUSIONS	207
BIBLIOGRAPHY	216