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LIST OF ABBREVIATIONS

GPS	Global Positioning System
MAE	Mean Absolute Error
PMU	Phasor Measurement Unit
RMS	Root Mean Square
RMSE	Root Mean Squared Error
SE	State Estimation
TSE	Transient State Estimation
WLAV	Weighted Least Absolute Value
WLS	Weighted Least Squares

LIST OF SYMBOLS

l	Length of transmission line	[km]
r	Line resistance per unit length	[Ω/km]
ℓ	Line inductance per unit length	[H/km]
c	Line capacitance per unit length	[F/km]
ϖ	Phase velocity	[m/s]
v_k	Sending-end busbar voltage	[V]
i_k	Sending-end current	[A]
v_m	Receiving-end busbar voltage	[V]
i_m	Receiving-end current	[A]
Z_C	Surge impedance	[Ω]
τ	Travelling time	[s]
R'	Total line resistance	[Ω]

ข้อความแห่งการริเริ่ม

1) วิทยานิพนธ์นี้ได้นำเสนอวิธีการใหม่ในการประมาณค่าสถานะของทรานเซียนต์ของสายส่งที่พิจารณาพารามิเตอร์แบบกระจาย โดยใช้โมเดลสายส่งแบบเบอร์เจอรอนซึ่งทำให้การประมาณค่ามีความถูกต้องมากขึ้น

2) อัลกอริทึมที่พัฒนาถูกนำมาทดสอบกับองค์ประกอบอื่นๆ ได้แก่ การทดสอบกับสัญญาณรบกวนในระดับต่างๆกัน การทดสอบกับอุปกรณ์ที่มีความไม่เป็นเชิงเส้น โดยในงานวิจัยได้ใช้หม้อแปลงไฟฟ้าที่มีการอิ่มตัวสำหรับการทดสอบ ซึ่งผลการทดสอบได้นำมานำเสนอไว้ในวิทยานิพนธ์นี้

STATEMENTS OF ORIGINALITY

1. This thesis presents the new method of transient state estimation for distributed parameter transmission line represented by Bergeron model. This new method provides the better results of estimation.

2. The developed algorithm is tested with other components such as testing with different noise, with nonlinear equipment (transformer which become saturation). The results of testing are presented in this thesis.