

自动化

改进能量方向保护及其在特高压输电线路上的应用

刘浩芳¹, 王增平², 刘汉青³, 刘俊岭⁴

1. 中国电力科学研究院, 北京市 海淀区 100192; 2. 华北电力大学 电气与电子工程学院, 北京市 昌平区 102206; 3. 东方地球物理公司 装备事业部, 河北省 涿州市 072750; 4. 胜利油田胜利工程设计咨询有限公司, 山东省 东营市 257026

摘要:

关键词:

Improved Energy Directional Protection and Its Application in UHV Transmission Lines

LIU Haofang¹, WANG Zengping², LIU Hanqing³, LIU Junling⁴

1. China Electric Power Research Institute, Haidian District, Beijing 100192, China; 2. School of Electrical & Electronic Engineering, North China Electric Power University, Changping District, Beijing 102206, China; 3. Department of Equipment BGP Inc., CNPC, Zhuozhou 072750, Hebei Province, China; 4. Shengli Engineering & Consulting Co., Ltd., Dongying 257026, Shandong Province, China

Abstract:

Keywords:

收稿日期 2010-05-05 修回日期 2010-06-30 网络版发布日期 2010-10-17

DOI:

基金项目:

通讯作者: 刘浩芳

作者简介:

作者Email: liuhaofang@epri.sgcc.com.cn

参考文献:

- [1] 赵青春, 邹力, 刘沛. 基于数学形态学的线路超高速方向保护[J]. 电网技术, 2005, 29(21): 75-80. Zhao Qingchun, Zou Li, Liu Pei. An ultra-high-speed directional protection for power transmission line based on mathematical morphology[J]. Power System Technology, 2005, 29(21): 75-80(in Chinese).
- [2] 王海港, 董新洲, 薄志谦. 一种灵敏可靠的输电线路电流差动保护判据[J]. 电网技术, 2006, 30(10): 90-93, 99. Wang Haigang, Dong Xinzhou, Bo Zhiqian. A sensitive and reliable operational criterion for current differential protection of transmission line[J]. Power System Technology, 2006, 30(10): 90-93, 99(in Chinese).
- [3] 苏永智, 潘贞存, 刘志清, 等. 基于无线CDMA通信的馈线纵联保护研究[J]. 电网技术, 2006, 30(14): 88-92. Su Yongzhi, Pan Zhencun, Liu Zhiqing, et al. Feeder's pilot protection based on wireless CDMA communication[J]. Power System Technology, 2006, 30(14): 88-92(in Chinese).
- [4] 王增平, 林富洪. 基于分布参数模型的T型输电线路电流差动保护新原理[J]. 电网技术, 2009, 33(19): 204-209. Wang Zengping, Lin Fuhong. A new current differential protection for three-terminal transmission lines based on distributed parameters mode[J]. Power System Technology, 2009, 33(19): 204-209(in Chinese).
- [5] 温荣, 谭建成. 串联电容补偿线路的相差保护特性研究[J]. 电网技术, 2009, 31(13): 86-90. Wen Rong, Tan J C. Study on phase comparison protection for series compensated line[J]. Power System Technology, 2009, 31(13): 86-90(in Chinese).
- [6] 赵庆明, 贺家李, 李永丽. 基于希尔伯特-黄变换的超高速方向保护研究[J]. 电网技术, 2007, 31(10): 79-83. Zhao Qingming, He Jiali, Li Yongli. Study of ultra-high-speed directional protection of transmission lines based on Hilbert-Huang transform[J]. Power System Technology, 2007, 31(10): 79-83(in Chinese).
- [7] 胡文丽, 焦彦军, 崔鸿斌. 基于小波变换的新型暂态行波方向保护[J]. 电网技术, 2005, 29(3): 68-71. Hu Wenli, Jiao Yanjun, Cui Hongbin. A novel transient traveling wave based directional protection using wavelet transform[J]. Power System Technology, 2005, 29(3): 68-71(in Chinese).
- [8] 张举, 张晓东, 林涛. 基于小波变换的行波电流极性比较式方向保护[J]. 电网技术, 2004, 28(4): 51-54. Zhang Ju, Zhang Xiaodong, Lin Tao. A directional protection based on traveling current polarity comparison

扩展功能

本文信息

Supporting info

PDF(478KB)

[HTML全文]

参考文献[PDF]

参考文献

服务与反馈

把本文推荐给朋友

加入我的书架

加入引用管理器

引用本文

Email Alert

文章反馈

浏览反馈信息

本文关键词相关文章

本文作者相关文章

PubMed

using wavelet transform[J]. Power System Technology, 2004, 28(4): 51-54(in Chinese). [9] 白嘉, 徐玉琴, 王增平, 等. 基于组合模量的行波电流极性比较式方向保护原理[J]. 电网技术, 2005, 29(13): 69-72. Bai Jia, Xu Yuqin, Wang Zengping, et al. Principle of combination modulus based traveling wave current directional protection with polarity comparison[J]. Power System Technology, 2005, 29(13): 69-72(in Chinese). [10] 何奔腾, 金华烽, 李菊. 能量方向保护原理和特性研究[J]. 中国电机工程学报, 1997, 17(3): 166-170. He Benteng, Jin Huafeng, Li Ju. Principle and property research of the energy directional protection[J]. Proceedings of the CSEE, 1997, 17(3): 166-170(in Chinese). [11] Chamia M, Liberman S. Ultra high speed relay for EHV/UHV transmission lines: development, design and application[J]. IEEE Transactions on Power Apparatus and Systems, 1978: 97(6): 2104-2116. [12] Vitins M. A fundamental concept for high speed relaying[J]. IEEE Transactions on Power Apparatus and Systems, 1981, 100(1): 163-168. [13] Engler F, Lanz O E, Hanglli M, et al. Transient signals and their processing in an ultra high speed directional relay for EHV/UHV transmission line protection[J]. IEEE Transactions on Power Apparatus and Systems, 1985, 104(6): 1463-1473. [14] Johns A T, Martin M A, Barker A, et al. A new approach to EHV direction comparison protection using digital signal processing techniques[J]. IEEE Transactions on Power Delivery, 1986, 1(2): 24-34. [15] Prakash K S, Malik O P, Hope G S, et al. Amplitude comparator based algorithm for directional comparison protection of transmission lines[J]. IEEE Transactions on Power Delivery, 1989, 4(4): 2032-2041. [16] Thomas D W P, Christopoulos C. Ultra-high speed protection of series compensated lines[J]. IEEE Transactions on Power Delivery, 1992, 7(1): 139-145. [17] 沈国荣, 隋风海, 陈涛, 等. LFP-901型超高压线路成套快速保护装置[J]. 电力系统自动化, 1993, 17(6): 52-56. Shen Guorong, Sui Fenghai, Chen Tao, et al. EHV line fast protection relay LFP-901[J]. Automation of Electric Power Systems, 1993, 17(6): 52-56(in Chinese). [18] 何奔腾. 输电线路暂态能量法超高速方向保护原理[D]. 杭州: 浙江大学, 1994. [19] 何奔腾, 金华烽, 李菊. 能量方向保护的实现和试验[J]. 中国电机工程学报, 1997, 17(3): 171-174. He Benteng, Jin Huafeng, Li Ju. Realization and test of the energy directional protection[J]. Proceedings of the CSEE, 1997, 17(3): 171-174(in Chinese). [20] 袁荣湘, 陈德树, 张哲. 能量方向保护原理的分析[J]. 电力系统自动化, 1999, 23(14): 17-20,28. Yuan Rongxiang, Chen Deshu, Zhang Zhe. Analysis of the principle of energy directional protection[J]. Automation of Electric Power Systems, 1999, 23(14): 17-20,28(in Chinese).

本刊中的类似文章