

红松阔叶混交林林隙光量子通量密度的时空分布格局

李猛^{1,2}, 段文标^{1*}, 陈立新¹¹东北林业大学林学院| 哈尔滨 150040; ²中国科学院东北地理与农业生态研究所/中国科学院黑土区农业生态重点实验室| 哈尔滨 150081

Spatiotemporal distribution pattern of photosynthetic photon flux density in forest gaps of Korean pine broadleaved mixed forest.

LI Meng^{1,2}, DUAN Wen-biao¹, CHEN Li-xin¹¹College of Forestry, Northeast Forestry University, Harbin 150040, China|²Key Laboratory of Mollisols Agroecology, Northeast Institute of Geography and Agroecology, Chinese Academy of Sciences, Harbin 150081, China

- 摘要
- 参考文献
- 相关文章

全文: PDF (1293 KB) HTML (1 KB) 输出: BibTeX | EndNote (RIS) 背景资料

摘要

以小兴安岭原始红松阔叶混交林林隙为对象, 采用网格法布点, 对生长季林隙内各样点光量子通量密度(photosynthetic photon flux density, PPF)进行连续观测, 利用基本统计学和地统计学方法分析其时空分布格局. 结果表明: 红松阔叶混交林林隙的PPFD高值区日变化明显, 最大值出现在12:00, 位于林隙北侧. 林隙的PPFD 6月最高, 7、8、9月依次递减, 其中7月PPFD不同位置间的变异系数最大; 各月均为中等变异. 不同月份林隙PPFD空间异质性的强度和尺度不同, 6月变程最大, 7月基台值和结构比最大; 各月林隙PPFD斑块复杂程度不同, 最大值均位于林隙东北侧. 郁闭林分和空旷地的月平均PPFD变化次序与林隙一致. 各样点月平均PPFD为空旷地最高, 林隙次之, 郁闭林分最低.

关键词: 红松阔叶混交林 林隙 光量子通量密度 地统计学 小兴安岭

Abstract:

Taking the forest gaps of natural *Pinus koraiensis* broadleaved mixed forest in Xiao Xing' an Mountains as test object, and by the method of grids, the photosynthetic photon flux density (PPFD) in the gaps was continuously measured during growth season, and the spatiotemporal distribution patterns of the PPF were analyzed by fundamental statistics and geostatistics methods. In the forest gaps, the high-value region of PPF presented an obvious diurnal change, with the maximum PPF appeared at 12:00 and in the northern part of the gaps. The mean monthly PPF was the highest in June, and then decreased in the sequence of July, August, and September, with the largest coefficient of variation at different locations occurred in July and the medium variability in all the months. In different months, the intensity and the scale of PPF spatial heterogeneity in the gaps differed, with the variation degree being the highest in June and the sill and proportion being the largest in July. The complex degree of the monthly PPF patches also differed, with the maximum located in the northeast part of the gaps. The variation sequence of the mean monthly PPF in understory and open ground was consistent with that in gap, and the mean monthly PPF was the highest in open ground, medium in forest gap, and the lowest in understory.

Key words: Korean pine broadleaved mixed forest forest gap photosynthetic photon flux density geostatistics Xiao Xing' an Mountains

引用本文:

. 红松阔叶混交林林隙光量子通量密度的时空分布格局[J]. 应用生态学报, 2011, 22(04): 880-884.

. Spatiotemporal distribution pattern of photosynthetic photon flux density in forest gaps of Korean pine broadleaved mixed forest.[J]. Chinese Journal of Applied Ecology, 2011, 22(04): 880-884.

链接本文:

<http://www.cjae.net/CN/> 或 <http://www.cjae.net/CN/Y2011/V22/I04/880>

没有本文参考文献

[1] 刘少冲, 段文标*, 冯静, 韩生忠. 林隙对小兴安岭阔叶红松林树种更新及物种多样性的影响[J]. 应用生态学报, 2011, 22(06): 1381-1388.

服务

- ▶ 把本文推荐给朋友
- ▶ 加入我的书架
- ▶ 加入引用管理器
- ▶ E-mail Alert
- ▶ RSS

作者相关文章