Some conditions which imply quasi-developability

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Abstract

In this paper quasi-developable spaces, quasi-$W\Delta$-spaces, quasi-semi-stratifiable spaces and spaces with quasi-G^*_δ-diagonal are studied. It is shown that every quasi-$W\Delta$, quasi-semi-stratifiable space is a quasi-developable space. A regular space is quasi-semi-stratifiable if and only if it is a quasi-β-space with quasi-G^*_δ-diagonal. A regular space is quasi-semi-stratifiable if and only if it is a quasi-α quasi-β-space. A regular quasi-β-space is a quasi-Moore space if and only if it is a quasi-γ-space. A quasi-first-countable quasi-semi-stratifiable space is quasi-developable. A regular quasi-q-space is a quasi-Moore space if and only if it is a quasi-semi-stratifiable space.

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1 Definitions

In 1971 H.Bennett [**?**], introduced the idea of quasi-developibility. A countable family $\{\mathcal{G}_n : n \in N\}$ of collections of open subsets of a space X is called a quasi-development for X provided for each point p in X and each open set R containing p there is a natural number n such that some element of $\mathcal{G}_n$ contains p and each element of $\mathcal{G}_n$ that contains p is contained in R. If in addition, it is required that each $\mathcal{G}_n$ be an open cover of X, then $\{\, \mathcal{G}_n : n \in N\,\}$ is said to be a development for X. A topological space with a quasi-development is called a