

is most prevalent.

For a single point of introduction, the time scale that convergence happens on is of the same order as that of the spatial effects, compare Figure 1 left column in this paper to Figure 1 in [14]. This means that both contributions have to be considered simultaneously. However, spatial dynamics and network models also include local outbreaks that have a brief, but fierce growth, even on a population level if the prevalence is low [16].

While the time scale τ is used here for the mixing of groups, the same mechanism also applies to the competition between variants with different growth rate, or a combination of the two. The latter can be achieved with a block-diagonal contact matrix.

V. CONCLUSION

In the above we have investigated the transient effects of SEIR-models when initializing the system away from the dominant eigenvector and the consequences for the observed growth rate.

As expected, an outbreak starting in the more active groups converges faster, and the same is true for a more infectious disease. The significant part is the time scale on which the convergence occurs. It turns out that, using realistic parameters, the growth rate has converged within three weeks, which also means that it is safe to estimate it at this point.

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VI. BIBLIOGRAPHY

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