The revised manuscript "Modelling Solar Oscillation Power Spectra: III. Spatiotemporal spectra of solar granulation velocity field as seen in SDO
HMI Doppler-velocity measurements" by Sergei V. Vorontsov, Stuart M. Jefferies, and Timothy P. Larson has included most of my recommendations
and besides some minor additional suggestions, see below, is suited for publication.

l. 15 (abstract) and title

spatiotemporal -> spatio-temporal

l. 37
It is common practice in the mode-fitting
->
It is common practice in most mode-fitting

l.45
Our time-series begins on 2019.03.14 and covers the one-year period
->
The time-series we studied begins on 2019.03.14 and covers nearly a one-year period

l. 62 and thereafter

"the odd (in m) component" -> "the odd components with respect to m"
"the even (in m) component" -> "the even components with respect to m"
"in SDO HMI measurements."
The instrument is HMI, it flew on board the SDO spacecraft, so use HMI
alone (including the title).

Also "Doppler-velocity" in the title should be either Dopplergrams or velocity

l. 64 leakage-matrix no '-'

l. 74 "make a Fourier transform of the time string of some large length T"
you mean a "time series of length T, with T large compared to ..."

l. 85 add "respectively" before the ", integrating"

"integrating in angular coordinates" -> integrating over the angles
\theta and \phi

l. 89 notation
Var $U_{\ell,m}$ -> Var[U_{\ell,m}], like the E[] and Covar[] elsewhere

l. 92
"for an observer moving together with the background flow" drop "together"

l. 97
To make derivations more transparent, we consider a model with the effects
of rotation discarded before generalizing
->
To make derivations more transparent, let us first consider a non-rotating model before generalizing

l. 113
We work in a similar manner -> We proceed in a similar manner

l. 122
To see this -> To show this

l. 125
The expectation value of their product E(v_r v_h) = 0
->
The expectation value of their product E[v_r v_h] = 0

l. 131
are not influenced by rotation -> are not affected by rotation

l. 132
spherical-harmonic -> spherical harmonic
(this may not be the only place where hyphens are misused)

l. 149-150
is even function -> is even an function

l. 181
rms value -> RMS (and l. 243)
weighted with -> weighted by

l. 320
lower and higher degrees l -> lower and higher degrees ℓ

l. 322
â€™torsional oscillationsâ€™, no need for quotes, and other places use "
and may not need them

l. 322 (thx)
and an anonymous referee -> and the referee

l. 376
Equation (9) shows that for poloidal fields (which describe

undistorted eigenfunctions of solar oscillations)
    ->
    Equation (9) shows that for poloidal fields, which describe the undistorted eigenfunctions of solar oscillations,

l. 387
    "as â€™prohibitedâ€™ leaks." no need for quotes

l. 380
     it is even function of B -> it is an even function of B

l. 380-381

     In power spectra, the magnitude of spatial leaks (the absolute value of
     leak amplitude squared) is always an even function of the solar B-angle,
     i.e. does not depend on its sign.
    ->
     In the power spectra, the magnitude of spatial leaks, i.e. the absolute value
     of 381 leak amplitude squared, is always an even function of the solar B-angle
     (i.e. does not depend on its sign).

     although the "(i.e. does not depend on its sign)" is redundant.

Finally
     a couple citation are like "in (Author, year)" but should be "in Author
     (year)", some could benefit from being like (see Author, year)